



The British flower garden

Robert Sweet, Edwin Dalton Smith

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Received June, 1908

THE
BRITISH
FLOWER GARDEN;

CONTAINING
Coloured Figures & Descriptions
OF THE
MOST ORNAMENTAL & CURIOUS
HARDY FLOWERING PLANTS,
INCLUDING
ANNUALS, BIENNIALS, PERENNIALS,
AND
FLOWERING SHRUBS;
WITH THEIR
SCIENTIFIC AND ENGLISH NAMES;
BEST METHOD OF CULTIVATION AND PROPAGATION;
THE HEIGHTS THEY GENERALLY ATTAIN;
Or any other Information respecting them that may be considered of importance.

BY
ROBERT SWEET, F.L.S.

*Author of Hortus Britannicus, Hortus Suburbanus Londinensis, Botanical Cultivator,
Geraniaceæ, Cistineæ, Flora Australasica, the Florist's Guide, the
British Warblers, &c. &c.*

The Drawings by E. D. SMITH, F.L.S.

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VOLUME III.
—◆—

LONDON:

PUBLISHED FOR THE AUTHOR,
BY W. SIMPKIN AND R. MARSHALL,
STATIONERS'-HALL-COURT, LUDGATE-STREET.

1827 to 1829.

June 1908
18335-

J. Tilling, Printer, Grosvenor Row, Chelsea.

BOOKS QUOTED IN VOLUME III.

IN ADDITION TO THOSE ENUMERATED IN

VOLUMES I. AND II.

- Ann. soc. hortic. par.* Annales de la Société d'Horticulture. Paris, 1826.
- Ard. spec.* Arduino (Pietro.) Animadversionum botanicarum Specimen, 4to. Patavii, 1759.
- Bieb. flor. taur. cauc.* Marschall de Bieberstein (L. B. Fred.) Flora Taurico-Caucasica, 3 vol. 8vo. Charkoviae, 1808—1819.
- Biv. cent.* Bivona Bernardi (Antonin.) Sicularum Plantarum Centuria prima, 1 vol. 8vo. Panormi, 1806.
- Bocc. sic.* Boccone (Paolo.) Icones et Descriptiones rariorum Plantarum Siciliæ, Melitæ, Galliæ, et Italiæ, 4to. Londini, 1674.
- Breyn. cent.* Breynius (Jacobus.) Exoticarum plantarum centuria, 1 vol. fol. Gedani, 1678.
- Caran. diss.* Cavanilles (Ant. Jos.) Monadelphicæ classis Dissertationes decem, 4to. 1785.
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- Cyrril. pl. rar. neap.* Cyrrilli (Dom.) Plantarum rariorum regni Neapolitani fasciculus, 1778, fol.
- DC. in ann. sc. nat.* Decandolle (Augustin Pyramus.) Annales du Museum d'histoire naturelle, 4to. Paris.
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- Nees horæ physicae berol.* Nees von Esembeck (G. G.) Horæ Physicæ Berolinensis collectæ ex symbolis viro- rum doctorum Link, Rudolphi, etc. 1 vol. fol. Bonnæ, 1820.
- Nutt. in mem. acad. nat. scien. philad.* Nuttall, (Thomas) in Transactions of the American Philosophical Society, 4to. Philadelphia, 1771, et seq.
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- Pl. sel. hort. ber.* Link et Otto. Plantæ selectæ Hortus berolinensis, fol.
- Pluk. amalth.* Plukenet (L.) Amaltheum Botanicum, 1 vol. 4to. 1705.
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- Roxb. hort. beng.* Roxburgh (William.) Hortus Bengalensis, edited by W. Carey, 1814, 8vo.
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*Scilla maritima* L.

Pub. by E. M. May 1867.

Wendlandt sc.

ALLIUM neapolitanum.*Neapolitan Moly.*

• *Natural Order.* ASPHODELEÆ. *Brown prodr.* 274.

• *ALLIUM.* *Perianthium* inferum 6-partitum. *Stamina* 6. *Stigma* sæpius indivisum. *Capsula* supera trilocularis, trivalvis; *loculis* 1-vel 2-spernis, rarissime polyspermis. *Flores* *spathacei umbellati, pedicellati.* G. Don. monog. alli. p. 3.

Divisio IX. *Umbella* capsulifera. *Spatha* bi-vel triloba, brevis, marcescens. *Stamina* subulata, basi dilatata. *Scapi* nudi, centrales. *Folia* lorata. *Flores* patentes, erecti, rarius campaniformis penduli. (MOLIUM) Don loc. cit. p. 76.

Sect. 5. *Flores* albi; *scapi* triquetres, *stigmata* trifida.

A. *neapolitanum*, foliis lorato-lanceolatis carinatis, spathâ univalvi brevi amplexa, umbellâ fastigiata multiflorâ, perianthii laciniis oblongis obtusissimis, staminibus perianthii fere dimidio brevioribus. Don loc. cit. p. 86.

Allium neapolitanum. Cyrill. pl. rar. neap. fasc. 1. p. 13. t. 4. Willd. enum. supp. 17. Link enum. 1. p. 316. Hornem. hafn. 1. p. 964. Tenore Catalog. pl. hort. reg. neap. p. 4.

Allium album. Biv. cent. 1. p. 16. Savi app. sant. viag. 1. p. 352. t. 7. Redout. liliac. t. 306. Trevir. alli. n. 20.

Allium lacteum. Flor. græc. t. 325. Prodr. 1. p. 226.

Bulb oblong, proliferous. *Leaves* 2 or 3, sheathing the scape, lanceolately-linear, acute, channelled on the upper side, bluntly keeled underneath, striate, smooth and glossy. *Scape* longer than the leaves, slightly 3-sided, smooth and shining. *Umbel* many-flowered, drooping before expansion, and when expanded a little nodding. *Spathe* bursting on one side, cordate, acute, thin and membranaceous when the flowers are expanded: *Flowers* from 12 to 20 in our plants, loosely spreading. *Pedicels* smooth, long and slender, a little thickened below the flower. *Perianthium* divided nearly to the base, into 6 leaflets, which are oblongly ovate, obtuse, toothed at the points, the 3 outer ones rather the largest, of a pure white, with a strong nerve down the middle of each. *Stamens* 6, inserted in the base of the leaflets: *filaments* subulate, flat, dilated downwards,

about half the length of the perianthium : *anthers* incumbent : *pollen* pale yellow. *Style* smooth, tinged with red, about the length of the stamens. *Stigma* slightly 3-lobed. *Germen* trilocular. *Seeds* few, smooth, nearly globular.

Our drawing of this handsome and fragrant species was made at the Nursery of Mr. Colvill, from a bulb sent him by Professor Tenore, from the Royal Botanic Garden at Naples, with many other curious bulbous rooted plants, several of which are now coming into flower ; we think the present species as handsome a one as any in this extensive genus, of which an excellent Monograph has lately been published in the Memoirs of the Wernerian Natural History Society of Edinburgh, from the pen of Mr. George Don, who has recorded 139 species besides doubtful ones, the greater part of which he examined and compared from the living plants, which makes the work of much more value, as it is impossible to decide on some of the numerous synonyms by dried specimens, and some not very correct figures ; he has taken great pains to ascertain the synonyms of other authors, of which he has brought together an immense number ; and as far as we have an opportunity of deciding, they are carefully and correctly arranged ; altogether it contains above a hundred closely printed pages.

The present plant being native of the South of Europe, is rather more tender than some others ; it therefore requires a warm border, and to be planted about 6 inches deep, to be out of the reach of frost ; a light sandy soil suits it best, and it increases freely by offsets at the root.



1. Perianthium spread open, to show the insertion of the Stamens. 2. One of the largest leaflets, with the Stamen inserted in the base. 3. One of the smaller ones. 4. Germen, terminated by the Style and 3-lobed Stigma.



B. B. Smith, Del.

Pub. by R. P. Smith, May, 1879.

W. H. Smith, En.

VERBENA sororia.

Nepaul Vervain.

Natural Order. VERBENACEÆ. Brown prodr. 1. p. 510.

VERBENA. Calyx 5-fidus. Corolla infundibuliformis, limbo inæquali, 5-fido. Stamina 4, didynama. Pericarpium tenue, evanidum. Semina 4. Flores paniculato-spicati. Brown prodr. 1. p. 514.

V. sororia, foliis pinnatifido-incisis petiolatis scabris: segmentis mucronatis argute serrato-dentatis, spicis filiformibus subpaniculatis, floribus breviter pedicellatis, pedunculis pedicellis calycibusque glanduloso-pilosis, calycibus hispidis tubo corollæ brevioribus.

Verbena sororia. Don prodr. fl. nepal. p. 104.

Verbena officinalis. Lour. cochin. 1. p. 33. Roxb. hort. beng. p. 4. nec aliorum.

Perennial. Stems several from the same root, in our plants above 3 feet high, branching near the top, bluntly 4-sided, very rough, and slightly hairy. *Leaves* opposite, pinnatifid or deeply lacinate, strongly nerved underneath, and furrowed on the upper side, very rough to the touch, attenuated at the base or down the footstalk: *segments* acute, the points mucronate, deeply, unequally, and sharply toothed, thickly covered with little warts or glands, and clothed on both sides with short stiff hairs, the margins fringed: *upper leaves* generally 3-parted, the segments spreading, and less toothed. *Flowers* terminating the stems and branches, in elongated spikes, more or less panicked. *Peduncles, pedicles, and calyx*, thickly clothed with short hairs, that are tipped with small glands. *Spikes* at first short, but lengthening out as they flower, and becoming very long before the seeds ripen. *Bractes* lanceolate, acute, about the length of the calyx. *Pedicles* very short, scarcely any. *Calyx* angular, sharply 5-toothed, hispidly hairy, shorter than the tube of the corolla. *Corolla* funnel-form, of a lilac colour, hairy inside and without, the throat bearded; tube slender, slightly deflexed: limb unequally

5-lobed, the lower lobes nearly double the size of the upper ones, and retuse, the upper ones entire. *Stamens* 4, small, inserted in the upper part of the tube, 2 higher up than the others. *Style* short, smooth, included in the tube. *Stigma* capitate. *Seeds* 4, while young clothed with a thin shelled pericarpium, which bursts and leaves them naked when ripe.

This pretty plant is nearly related to the *V. officinalis* of our own country, and was supposed to be the same plant by the late Dr. Roxburgh, under which name it is given in the Hortus Bengalensis; but the plants are very different from each other, when both are seen together; the present is much more tender than the English plant, and will scarcely endure our Winters without a slight protection; we have succeeded in keeping it by placing a flower pot over the plant in severe frosty weather. It thrives well in the common garden soil, and in a good situation will attain the height of three feet and upwards. Seeds of it ripen plentifully, which, if sown early in Spring, will flower the following Autumn, and perhaps ripen seeds; from the habit of the plant we may expect it to possess the medicinal properties of *V. officinalis*.

Our drawing was made from a plant at the Nursery of Mr. Colvill, where it was raised from seeds given him by Mr. Hood, Surgeon, South Lambeth, who received them from Nepaul, of which country it is a native.



1. Calyx. 2. Corolla spread open, to show the insertion of the Stamens.
3. Germen, terminated by the Style and Stigma.



L. D. Smith. 34.

Pub. by E. J. Smith. May 1877.

Heddele. 10.

SIEGESBECKIA droseroides.

Sundew-involucered Siegesbeckia.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Sect. V. HELIANTHÆ. *Kunth synops.* 2. p. 463.

SIEGESBECKIA. *Involucrum* duplex: exterius pentaphyllum, patens; interius polyphyllum, campanulatum. *Receptaculum* paleaceum. *Flosculi* disci tubulosi, hermaphroditi; radii nonnulli, unilaterales, ligulati, feminei. *Akenia* tetragona, calva.—*Herbæ glanduloso-viscosæ. Folia opposita, integra. Flores terminales et alares, lutei.* *Kunth synops.* 2. p. 506.

S. droseroides, foliis petiolatis rhombeo-ovatis acutis obsolete dentatis pilosis, petiolis foliaceo-alatis, caule angulato paniculato-ramoso villosa, floribus corymboso-cymosis, foliolis involucri exterioribus longissimis apice dilatatis glanduloso-pilosis.

Siegesbeckia droseroides. *Swt. hort. brit.* p. 235.

Root perennial. *Stem* erect, herbaceous, angular, channelled, in our specimens about 3 feet high, branching regularly all the way up, tinged with purple at the base, thickly clothed with stiffish villous hairs: *branches* opposite, rather slender, angular, erect or ascending, thickly clothed with glandular hairs, and generally terminated with from 3 to 5 flowers. *Leaves* opposite, connected at the base and clasping the stem, with winged foliaceous petioles, rhomboidally ovate, acute, slightly toothed with very short teeth, triplynerved, reticulately veined, clothed with short hairs on both sides, upper side of a dark green and pale underneath: *upper ones* sessile, or the petioles very broadly winged. *Petioles* furrowed and purple on the upper side, and rounded on the lower. *Flowers* terminal, upper ones in a sort of panicked cyme, all facing forward or slightly nodding. *Peduncles* rather long and slender, clothed with glandular hairs. *Involucre* double; *outer series* of 5 spreading slender leaflets, about an inch long, dilated at the point, and thickly clothed with viscous glandular hairs, which gives the appearance of a species of *Drosera* or

Sundew: *inner ones* campanulate, composed of numerous short, ovate, concave leaflets, the points curved inwards, thickly clothed with spreading, viscous, glandular hairs. *Receptacle* convex, chaffy. *Chaff* spatulate, concave, enclosing the seed, hairy at the points. *Rays* from 7 to 10, short, spreading, nearly as broad as long, toothed with 3 blunt teeth, of a pale yellow, without stamens, but producing seed, and bearing a long exserted style and 2-cleft recurved stigma. *Florets of the disk* several, fertile, tube very hairy, limb inflated, 5-toothed. *Stamens* 5, naked. *Style* smooth, exserted. *Stigma* 2-cleft, the segments spreading, slightly papillose. *Seed* black, naked, quadrangular, tapering downwards.

The present plant is a native of Mexico, and requires to be planted in a warm border, and to be covered a little in frosty weather; many plants of it were raised at the Nursery of Mr. Colvill, in 1825, from seeds given him by Mrs. Manners Sutton, Lady of the Archbishop of Canterbury, who received them from Mexico; from one of those our drawing was made the following Autumn, when several of them flowered. The plants at Mr. Colvill's were from 2 to 3 feet high; but Mr. Lambert informs us that he had some plants in one of his borders that were from 4 to 5 feet high, and made a fine appearance, with their numerous flowers and singular Involucrum, which is almost exactly like the leaves of *Drosera filiformis* of Pursh, from which we have derived our specific name. It is nearly related to *S. jorullensis* of Kunth, but differs in its angular stem, longer leaflets of the Involucrum, a much greater number of florets and rays, and in its quadrangular seeds. Its greatest beauty and singularity consists in its curious Involucrum, the glands of which are covered with a glutinous matter, which catches any small Insects that happen to alight on them. Seeds of it ripen plentifully, which should be sown in pots in a frame or Greenhouse, and from thence be transplanted into the flower borders.



1. One of the inner leaflets of the Involucrum. 2. Scale of the chaff from the Receptacle. 3. Ray, showing its 3 blunt teeth, the tube hairy. 4. Floret of the disk. 5. The same spread open, to show the nerves alternating with the teeth. 6. The 5 Stamens spread open, the filaments distinct, and the anthers united. 7. Ripe seed, all magnified.



Salvia D. l.

Pub. by R. Seale. May 1827

Waddell & Co.

LEONURUS sibiricus.

Siberian Mother-wort.

Natural Order. LABIATÆ. *Brown prodr.* 499.

Sect. II. Stamina 4 fertilia, antheris omnium v. duorum completis.

A. Calyx regularis 5-fidus v. 5-10-dentatus.

LEONURUS. *Calyx* 5-dentatus. *Corollæ* labium superius integrum; inferius tripartitum: lacinia media indivisa. *Antheræ* lobis parallelis. *Brown in Hort. Kew. ed. 2. v. 3. p. 405.*

L. sibiricus, foliis tripartitis: laciniis subincisis obtusiusculis, calycibus inermibus, galea corollæ fornicata erecta. *Spreng. syst. veg. 2. p. 738.*

Leonurus sibiricus. *Willden. sp. pl. 3. p. 117. Smith exot. bot. 2. p. 67. t. 94. Pers. syn. 2. p. 126. Hort. Kew. ed. 2. v. 3. p. 406.*

Biennial. *Stems* erect, from one to 2 feet high, 4-sided, and channelled down each side, of a purple colour, and clothed with a short thin pubescence. *Leaves* 3-parted, nearly to the base: segments more or less divided, and bluntish; those on the lower leaves subpinnatifid or palmately spreading: on the upper ones entire, all linear, channelled and bluntish, of a glossy green on the upper side and lighter underneath, slightly pubescent, and the margins slightly fringed with very short hairs. *Petioles* channelled on the upper side, and convex on the lower, pubescent and ciliate. *Flowers* in whorls, or in very close fascicles in the axils of the leaves: *fascicles* many-flowered, surrounded by numerous pungent hairy bracts. *Calyx* 5-angular and 5-toothed, thickly clothed with spreading white hairs; the teeth sharp but not pungent, and spreading, the two lower ones longest. *Corolla* 2-lipped: upper lip straight, and arched or concave, densely tomentose on the outside: *lower one* 3-parted; side lobes short and straight: middle one more than double the size, the point reflexed. *Stamens* 4, inserted in the tube, 2 longer than the others: *filaments* smooth. *Style* smooth, longer

than the stamens. *Stigma* bifid, one point erect, the other slightly recurved. *Seeds* 4, smooth and naked.

The present plant is a hardy biennial, native of Siberia, and thrives well in the open borders in the common garden soil, where it makes a pretty appearance, flowering from June to August; in rich soil it will reach the height of from two to three feet, but in poorer soil and a dry situation it will be considerably less. Seeds of it ripen plentifully, by which any number may be raised; those may be sown in the open ground where they are to remain, or they may be transplanted in various situations; if sown early in Spring, some of them will flower the following Autumn, and the others early the next season; but if sown late in Summer or Autumn, it will be late the following season before they flower.

Our drawing was made at the Apothecaries' Company's Garden at Chelsea, in July last.



1. Calyx. 2. Corolla spread open, to show the insertion of the Stamens. 3. The four naked seeds, terminated by the smooth Style and bifid Stigma.



R. emarginatus

Pub. by R. Smith, June 1817

Walden A.

PULSATILLA vernalis.

Spring Pasque-flower.

Natural Order. RANUNCULACÆ. *DC. syst. 1. p. 127.*

Tribus II. ANEMONEÆ. Æstivatio calycis et corollæ imbricata; petala nulla aut 5-6 plana; antheræ lineares extrorsæ; pericarpia monosperma indehiscentia caudata aut ecaudata, sicca aut rarius carnosa; semen intra pericarpium pendulum, embryo minimo in fructu supero.—*Caules herbacei nunquam scandentes; folia nunc radicalia nunc caulina alterna; radices grumosæ aut fasciculatæ.* *DC. syst. 1. p. 168.*

PULSATILLA. Involucrum trifolium a flore distans. *Calyx* 5-6-sepalus petaloideus. *Glandulæ* stipitatæ nectariferæ ad basin sepalorum. *Petala* 0. *Stamina* numerosa. *Cariopsides* numerosæ monospermæ in caudam longam barbatamque elongatæ.—*Folia radicalia sæpius pinnati-secta, segmentis multifidis, lobis linearibus cuneatisve; flores sæpius purpurei v. albi.*

P. vernalis, foliis pinnati-sectis; segmentis cuneato-lanceolatis trifidis glabriusculis, flore erecto, involucri villosissimo, sepalis 6 rectis elliptico-oblongis. *DC. syst. veg. 1. p. 189. Prodr. 1. p. 16.* *Pulsatilla vernalis.* *Mill. dict. n. 3. Willden. enum. 2. p. 581. Link. enum. 2. p. 88. Spreng. syst. 2. p. 664. Swt. hort. brit. p. 3.* *Anemone vernalis.* *Linn. sp. 759. Flor. dan. t. 29. Willden. sp. pl. 2. p. 1273. Hort. Kew. ed. 2. v. 3. p. 337. Pers. syn. 2. p. 96.*

A hardy perennial, tufted, herbaceous plant. *Leaves* crowded in a close tuft, pinnate, pubescent, and fringed when young, but becoming nearly smooth by age: *leaflets* generally 2 pair besides the terminal one, trifid; segments wedge-shaped or lanceolate, and generally toothed with bluntish rounded teeth. *Petioles* densely clothed with spreading villous white hairs. *Scape* thick, erect, thickly clothed with long villous white hairs, which incline downwards. *Involucre* of three sessile leaflets, connected at the base: *leaflets* palmately spreading, the segments narrowly linear, acute, and densely clothed with long shaggy hairs, of a yellowish tint. *Sepals* 6, the three outer ones narrowest, elliptic, of a light blue on the outside, and white within: inner ones obovate or oblong, bluntly rounded, lighter out-

side: all clothed outside with woolly rusty yellow hairs, and lined with branched veins. *Stamens* numerous, unequal in length: *filaments* smooth, yellow, attached to the base of the anthers, which are two-lobed, and yellow: *pollen* white. *Carpella* numerous, terminated by a long bearded tail. *Stigma* a simple blunt point.

Our drawing of this plant was made from one at the Nursery of Mr. Colvill, the beginning of April last, who received several plants of it in the Winter of 1805, from the late Mr. Schleicher, of Bex, in Switzerland; they are now thriving well, and several of them have flowered this Spring. It is a very pretty Spring flowering plant, and its singular feathery involucre adds greatly to its beauty. It thrives well in the open border of the Flower Garden, but requires rather a dry situation, as too much moisture is very liable to rot its roots; the lighter and more sandy the soil is the better it will thrive. It may also be grown in pots, but those must not be very small, or there will not be room for its roots; it may be increased by dividing at the root, or by seeds, which ripen plentifully; those should be sown as soon as ripe, and when up should be planted into pots, or in a bed in the open ground, when care must be taken that they are not devoured by worms or slugs in Winter.



1. One of the leaflets of the Involucrum.
2. A portion of the Stamens, to show their different lengths.
3. The Carpella, showing their bearded surface.
4. One of them removed, showing the slender Style and simple Stigma.



L. L. Smith, Del.

Pub. by R. J. Smith, June 1887

W. J. Smith, Jr.

OPHRYS lutea.

*Yellow-flowered Ophrys.**Natural Order. ORCHIDÆ. Brown prodr. 1. p. 195.*

Sect. I. MONANDRÆ. *Anthera* adnata, subterminalis persistens.
Pollinis massæ e lobulis angulatis elasticæ cohærentibus: basi affixæ.
Brown Hort. Kew. ed. 2. v. 5. p. 188.

OPHRYS. *Perianthium* subpatens. *Labellum* ecalcaratum. *Glandulæ pollinis* cucullis distinctis inclusæ. *Brown.*

O. lutea, scapo folioso, foliis ovatis glabris utrinque lineatis, labello dilatato trifido margine glabro integerrimo disco convexo villosa; laciniis lateralibus latis; media obcordata, perianthii foliolis exterioribus ovato-oblongis, interioribus ligulatis coloratis erectis.

Ophrys lutea. Cavan. ic. 2. p. 46. t. 160. Hooker exot. flor. t. 10. Spreng. syst. veg. 3. p. 701. Moris. s. 3. p. 595. t. 12. f. 15.

Orchis myodes lutea lusitanica. Breyn. cent. 75.

Root of two oblong bulbs. *Leaves* sessile, ovate, acute, the point slightly hooked inward, longitudinally lined with numerous lines on each side, of a bright green, smooth, and glossy. *Scape* leafy, smooth, cylindrical. *Spike* terminal. *Bractes* broadly lanceolate, bluntish, concave, about the length of the germen when in flower. *Perianthium* of 5 leaflets; the 3 outer ones ovately oblong, blunt, concave, margins slightly revolute, the back one rounded and arched over, all of a yellowish green colour: 2 inner ones ligulate, erect, yellow. *Labellum* large, hollow at the mouth, trifid, the margins smooth, entire, but slightly uneven, of a bright yellow, the disk or centre of a dark velvet, with a lighter oblong mark on each side, clothed with a short thick down; side lobes broad, rounded; middle one obcordate. *Column* erect, obtusely rounded. *Pollen masses* pedicled, inclosed in a hood, each seated on a gland, yellow.

For the opportunity of giving a figure of this rare and beautiful plant, we are obliged to H. B. Ker, Esq., in whose collection it flowered this Spring; the bulb was given him by W. Atkinson, Esq. who received it from Gibraltar; and

we are informed by Mr. Ker, that it has flowered in Mr. Atkinson's collection much stronger than the plant represented in our figure. It is certainly as handsome a species as any in the genus, and succeeds well in a warm border by the side of a wall in a southern aspect; the soil to be sandy loam, and if a little pounded chalk be mixed with it all the better. We do not believe that there is so much difficulty in cultivating the hardy Orchideæ as is generally imagined; we find many of the species thrive well in our garden, and the only thing that injures them is the worms, which sometimes throw them out of the ground; this may be remedied by watering it with water that has had hot lime slacked in it, which will not hurt the plants, as it is congenial to them, and it will effectually destroy the worms for a season. Nothing can be more curious than the flowers of several species of Orchideæ, some of which are also very beautiful, and are well worth the attention of the cultivator, even if a little more trouble than ordinary is required to take care of them; and we hope to be able to supply our readers with figures of several interesting species very shortly.



1. Germen, terminated by the three outer leaflets of the Perianthium. 2. The two inner leaflets of ditto. 3. Labellum, showing the Column with the two lobed anther, and the two Pollen-masses detached from the hood, each seated on a long slender pedicle, the grains of pollen showing distinctly.



P. poliflorus Dal.

Pub. by J. Moore June 1877

Wendell &c

AUBRIETIA purpurea.

Purple-flowered Aubrietia.

Natural Order. CRUCIFERÆ. *DC. syst. 2. p. 139.*

Subordo I. *PLEURORHIZÆÆ. Cotyledones planæ accumbentes. Radicula lateralìa. Semina compressa.*

Tribus II. *ALYSSINÆÆ* seu *Pleurorhizææ Latiseptæ. Silicula longitudinaliter dehiscens, septo lato ovali membranaceo, valvis planis aut concavis. Semina compressa, sæpè marginata. Cotyledones planæ, accumbentes, septo parallelæ. DC. l. c. p. 147.*

AUBRIETIA. Calyx clausus, basi bisaccatus. *Petala* unguiculata, limbo integro. *Stamina* majora edentula, 2 minora intùs dente aucta. *Silicula* oblonga, stylo persistente superata, valvis concavoplanis, septo elliptico. *Semina* plurima, immarginata. *Cotyledones* planæ, accumbentes.—*Herbæ* basi suffrutescentes, tenues, ramosæ, pilosiusculæ. *Folia* ovata aut oblonga, integra aut dentato-angulata, pilis simplicibus aut parcè ramosis puberula. *Racemi* oppositifolia et terminales, laxi, pauciflori. *Pedicelli* filiformes, ebracteati. *Flores* purpurascentes aut albi. *Habitus* fère *Malcomiæ*. *DC. l. c. p. 293.*

A. purpurea, pedicellis calyce brevioribus. *DC. syst. 2. p. 294.*

Prodr. 1. p. 158.

Aubrietia purpurea. Swt. hort. brit. p. 20.

Arabis purpurea. Sibth. fl. græc. t. 643. Smith prodr. 2. p. 28.

Perennial, tufted. *Stems* short and dense, suffruticose at the base, very much branched, the branches very short and very much crowded, clothed with fascicles of stellate hairs, and longer ones intermixed. *Leaves* scattered, very much crowded, oblong, or spatulate, obtuse, attenuated at the base into a kind of footstalk, sometimes entire, and sometimes with 1, 2, or 3 teeth on each side, thickly clothed on both sides with a grey stellate pubescence. *Racemes* erect, terminal or opposite to a leaf, seldom more than 3-flowered. *Pedicles* a line or 2 long, shorter than the calyx. *Flowers* about the size, or scarcely as large as *A. deltoidea*, of a purple lilac. *Calyx* closed, erect, 2-gibbous at the base, stellately pubescent. *Petals* 4, with a long unguis, obovate or cuneate, the unguis longer than the calyx. *Stamens* 6, two shorter than the others. *Filaments* dilated

at the base, with filiform points, the two short ones toothed about half way up, long ones winged about three parts of the way up, then suddenly tapering to a subulate point. *Germen* nearly cylindrical, oblong, stellately pubescent and velvety. *Style* filiform, smooth. *Stigma* slightly capitate. *Pod* oblong, convex, stellately downy, opening longitudinally from the point. *Septum* flat, membranaceous, with a thick margin. *Seeds* numerous, sometimes 40 in one pod, brown, flat, not margined.

This pretty little plant is one that is well adapted for rock-work, where it forms dense tufts, that make a fine appearance, when covered with flowers; it is more desirable than *A. deltoidea*, although its flowers are scarcely so large, as that is a more straggling plant, and is also more tender than the present. It is a native of Greece and the South of Europe, but stands our Winters very well in the open air unprotected, thriving best in a light sandy soil, and is readily increased by young cuttings planted under a hand-glass, or by seeds. Plants of it may be kept in small pots, where they will flower very well; they are then also ready to be turned out in a border, or on rock-work, at any season of the year, without receiving any injury. Our drawing was taken from a plant in the Garden belonging to the Apothecaries Company at Chelsea, last Spring.



1. Calyx. 2. The four Petals. 3. The 6 Stamens, the 2 short ones toothed on one side. 4. Ovarium terminated by the Style and Stigma. 5. Pod nearly ripe, terminated by the persistent Style, all magnified except the last.



J. D. Smith, Del.

Publ. by R. Sweet, Paris 1847

New York &c.

CLAYTONIA caroliniana.

*Spatula-leaved Claytonia.**Natural Order.* PORTULACÆ. *Juss. gen.* 312.*CLAYTONIA.* *Supra fol.* 16.

C. caroliniana, foliis radicalibus brevi ovalibus triplinerviis longe petiolatis: caulinis oppositis subsessilibus spathulatis utrinque attenuatis in petiolum decurrentibus, racemo solitario, sepalis obtusis, petalis subrotundis retusis, radice tuberoso.

Claytonia caroliniana. *Mich. fl. amer.* 1. p. 160. *Pers. syn.* 1. p. 253.

Hort. Kew, ed. 2. v. 2. p. 53. Ræm. et Schult. syst. 5. p. 433.

Spreng. syst. 1. p. 791.

Claytonia spathulæfolia. *Salisb. parad. t.* 71. *Pursh. fl. amer. sept.* 1. p. 175.

Root tuberous, producing several leaves and flower-stems. *Leaves* oval or spathulate, triply-nerved, entire, smooth: those at the root oval, with a long slender footstalk; stem-ones opposite, more spathulate, nearly sessile, or tapering at the base into a sort of decurrent footstalk. *Flower-stems* spreading, simple, smooth and glossy, tinged with red or flesh-colour. *Raceme* terminal, simple, nodding before the flowers expand, afterwards becoming erect. *Flowers* all leaning to one side, of a pale blush, elegantly striped with purple lines. *Pedicles* smooth and glossy, short and nodding before the expansion of the flowers, lengthened and erect when in bloom, when in fruit cernuous. *Calyx* 2-valved. *Sepals* broadly ovate, concave, bluntly rounded or truncate. *Petals* 5, roundly oval, with a small notch at the point, unguiculate, elegantly veined, with a bright yellow spot at the base of each. *Stamens* 5, inserted in the claws of the petals: *filaments* smooth, broad at the base and tapering upwards, inserted in the back of the anthers, spreading: *anthers* pale red. *Ovarium* triangular, smooth. *Style* smooth, scarcely as long as the stamens. *Stigmas* 3, blunt, erect or slightly spreading.

Our drawing of this rare American plant was made at the garden of Robert Barclay, Esq. at Bury-hill, in the beginning of April last, where it was flourishing well in the open borders, along with *C. virginica* ; we cannot conceive how the present plant continues so scarce, as it appears to ripen its seeds abundantly ; but we believe those are seldom noticed, as they ripen very quick, and are then lost. It succeeds well in a light sandy soil, composed chiefly of peat ; the seeds should be sown as soon as ripe, they will then become strong, and will flower the following season.



1. The 2-valved Calyx. 2. The 5 Stamens attached to the base of the Petals, which is left remaining to them. 3. Ovarium terminated by the Style and three Stigmas.

*I. Dimorpha Pol.**Tab. by E. - work July 1827**Wardell 46*

STREPTANTHERA elegans.

Elegant Streptanthera.

Natural Order. IRIDEE. *Brown prodr.* 1. p. 302.

STREPTANTHERA. *Spatha* bivalvis membranacea obtusa sublacera arido-sphacelata. *Perianthium* 6-partitum, corollaceum; tubo brevissimo: limbo regulari rotato. *Stamina* 3, tubo inserta: *filamentis* erectis: *antheræ* tortæ stylo inclusæ. *Stigmata* 3, dilatata, biloba, fimbriata. *Semina* globosa.

S. elegans, foliis ensiformibus obtusiusculis striato-nervosis medio excisis, scapo 1-2-floro, perianthii laciniis lato-ovatis basi bina-
culatis.

Bulb-tubers oblong, about the size of a Blackbird's egg, clothed with a brown fibrous coat. *Stem* about a span high, producing 2 or 3 scapes. *Leaves* distichous, sword-shaped, bluntish, with a very short mucro, strongly nerved and striated, narrowing as if cut in a little above the middle, and attenuated towards the base, of a pale green colour, inclining to glaucous, and clothed with an exceeding short pubescence, not to be seen without the aid of a lens. *Scapes* 2 or 3, cylindrical, smooth, a little flexuose, 1 or 2-flowered. *Spatha* short, 2-valved, scariosely membranaceous, obtuse or truncate, slightly jagged, streaked with irregular broken lines. *Flowers* of a pure white, slightly tinged with blush, with a bright purple centre, above which is a broken circle of black velvet, marked with large bright yellow spots. *Perianthium* salver-shaped, tubular; *tube* purple, shorter than the spatha: *limb* 6-cleft, spreading, flat, the laciniæ imbricate, very broadly ovate, pinnately veined, bluntly rounded, white, each marked with 2 yellow spots, on a dark velvet ground. *Stamens* 3, inserted in the mouth of the tube, and decurrent down it. *Filaments* erect, smooth, broad and channelled inside so as to enclose the style, narrowing towards the base; *anthers* 2-lobed, twisted round and embracing the style: *pollen* dark purple. *Ovarium*

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triquetrous, smooth, 3-furrowed. *Style* smooth, enclosed by the stamens. *Stigmas* 3, very much dilated, each 2-lobed, and fringed, bright purple. *Seeds* smooth, globular.

The present beautiful plant is one of the bulbs that was brought from the Cape by Mr. Synnot, and has now flowered we believe for the first time in this country. It constitutes a very distinct genus, readily distinguished from all to which it is nearest related, by its anthers, which twist round the style, and its dilated two-lobed stigmas; like the other Cape bulbs to which it is nearest related, it succeeds best in a light dry sandy soil, composed of rather more than one-third of rich light turfy loam, chopped up small, but not sifted; this is to be mixed with full one-third of fine sand, and the remaining part of light turfy peat, or any other very light soil, the use of it being to keep the loam open; the best loam is that of a reddish yellow colour, which feels soft and greasy to the touch; but the colour does not signify, if the substance is nearly the same; the lighter and more sandy it is the better, as it will then require less sand and peat to be mixed with it, and the small roots and fibres amongst it is the best means of keeping it light and hollow, those would be lost, if the mould was sifted, and it would be apt to bake like a brick, so that the shoots of the bulbs cannot push through it, and become rotten. We never use a sieve ourselves, for sifting any sort of mould whatever, not even for sowing the smallest seeds; it can always be made fine enough with the hands; and the seeds come up much better, and are not so apt to damp when the mould is a little rough.

This plant requires the same care as the other Cape bulbs, several of which we have seen tried in the open borders last Winter, only covered with a single mat; they were planted from 4 to 6 inches deep, and all succeeded very well. Our drawing was made from plants in the Nursery of Mr. Colvill; it also flowered at Mr. Lee's Nursery, at Hammersmith, this Spring.



1. Spatha. 2. The three Stamens inserted in the tube of the Perianthium, the anthers twisted. 3. Ovarium terminated by the Style and 3 cleft dilated Stigma, the segments of which are 2-lobed.



E. J. Smith, Del.

Printed by A. Wood, July 1857

W. Smith, Sc.

MUSCARI macrocarpum.*Large-capsuled Muscari.**Natural Order.* ASPHODELÆE. *Brown prodr.* 274.*MUSCARI.* *Supra fol.* 15.

M. macrocarpum, perianthiis ventricosso-cylindricis apice contractis pedicellis quadruplo longioribus, scapo compresso, foliis patentibus glaucis elongato-lanceolatis acuminatis concavo-canaliculatis. *Muscari moschatum* (L.) flavum. *Botan. magaz.* 1565. *Swt. hort. brit.* p. 419.

Bulb large, not increasing so freely as the other species. *Leaves* several, spreading round in various directions, from 6 inches to a foot in length, lanceolate, tapering to a very slender point, broadest at the base, convolutedly concave, and channelled on the upper side, of a brownish glaucous colour, margins tinged with purple. *Scapes* erect, or declining a little from the weight of the flowers, flattened on each side, particularly on the inner one, smooth and glossy, of a bright purple, dotted with numerous minute green dots. *Raceme* many-flowered. *Flowers* of a bright blue, tinged with purple before expansion, when expanded changing to a bright yellow, and dying off brown, delightfully fragrant. *Bractes* very small, membranaceous, more or less lacerate. *Pedicles* very short and smooth, about four times shorter than the flowers. *Perianthium* tubular, with a contracted narrow mouth, bellied or ventricose towards the base, slightly 6-furrowed, mouth slightly 6-crenate. *Stamens* 6, inserted in the tube a little above the base; *filaments* short, flattened towards the base and tapering upwards, inserted in the back of the anthers: *anthers* versatile, dark purple, two-lobed, divided at the base. *Ovary* triangular, smooth, white. *Style* short, smooth. *Stigma* three-lobed. *Capsule* very large, of a greyish lilac or purple, with three broad flat sides, very different from *M. moschatum*.

Our drawing of this beautiful and delightfully fragrant plant was taken the beginning of May last, at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham; they received it as long back as the year 1812 from Constantinople, from whence it was sent by Lady Liston, the Lady of the British Ambassador to the Porte at that time; but as it increases so slowly, it still continues a rare plant: this year it has flowered in greater perfection than ever it did before, and appears likely to ripen seeds, so that we hope it will soon become more plentiful, as it is a very desirable plant for all collections, both for its beauty and fragrance; it certainly is no variety of *M. moschatum*, with which it has been confused; and the *Tibcadi Muscari* of the Dutch Florists, which this was supposed to be, proves to be nothing but the common *M. moschatum*, as we saw a bed of them in flower this year at Messrs. Whitley and Co.'s Nursery, that had been imported from Holland under that name.

The present species is said to be one of the principal flowers with which the Turkish females contrive to correspond in secret with their lovers, which renders it a plant of great value amongst them. It thrives well in the open border of the Flower-Garden, in the common garden soil; the bulbs to be planted from 4 to 6 inches deep, according to their size; they will then flower every year regularly; but they are very slow of increase, except by seeds.



1. Perianthium spread open, to show the insertion of the 6 Stamens. 2. Ovary terminated by the Style and 3-lobed Stigma. 3. Full grown Capsule.



Edwards & Co.

Pub. by R. Swann, July 1827

Woodall & Co.

WISTERIA chinensis.

Chinese Wisteria.

Natural Order. LEGUMINOSÆ. *DC. prodr. 2. p. 93.*

Subordo I. PAPILIONACEÆ—*Tribus V. PHASEOLEÆ.* *Corolla* papilionacea. *Stamina* monadelphæ aut sæpiùs diadelphæ (9 et 1). *Legumen* polyspermum dehiscens continuum membranis cellulosis transversis inter semina sitis sæpè subdivisum non verè articulatum. *Radicula* super loborum commissuram inflexa. *Cotyledones* crassæ per germinationem immutatae aut in folia crassa vix stomatibus donata conversæ, extrà terram et sæpiùs extra spermodermium exsertæ. *Folia* primordialia opposita! omnium foliola numero imparia sæpiùs pinnatim, rariùs palmatim disposita. *DC. prodr. 2. p. 381.*

WISTERIA. *Calyx* campanulato-subbilabiatu8, labii superioris dentibus 2 brevibus, inferioris lobis 3 subulatis. *Corolla* papilionacea, vexillo bicalloso, alis carinâ conformibus, carinâ bicipiti. *Stamina* diadelphæ. *Tubulus nectarifer* ovarii stipitem cingens. *Legumen* substipitatum coriaceum bivalvo 1-loculare seminibus subtorulosum.—*Frutex scandens.* *Folia impari-pinnata extipulata.* *Racemi terminales.* *Flores* cœruleo lilacini, *juniore8 bracteis deciduis amittentib8 cincti, adulti ebracteati.* *DC. l. c. p. 389, 390.*

W. chinensis, alis 1-auriculatis, ovario villoso. *DC. prodr. 2. p. 390.*

Glycine chinensis. *Sims Botan. magaz. t. 2083.*

Glycine sinensis. *Botan. regist. t. 650. Lodd. bot. cab. t. 773.*

Stem shrubby, climbing, extending to a great length: young branches pubescent. *Leaves* pinnate: *leaflets* opposite, 2 to 5 pair, terminated with an odd one, petiolate, oblongly ovate, acuminate, thinly clothed with prostrate hairs on both sides, penninerved and reticulately veined, margins fringed with a short dense pubescence; the partial footstalks short, densely pubescent, producing a bristle-form stipule-like appendage at the base of each, which is very hairy and fringed. *Petioles* long, pubescent, striate, slightly furrowed on the upper side, very much swollen at the base. *Racemes* terminal, drooping, many-flowered. *Flowers* large and handsome, fragrant. *Peduncle* slightly angular, densely pubescent. *Bractes* lanceolate, taper-pointed, pubescent and fringed, deciduous and membranaceous. *Pedicles* slender, drooping, thickly clothed with unequal short woolly hairs. *Calyx* short, bell-shaped, two-lipped, inflated

at the base, light blue: *upper lip* shortly notched, or bluntly 2-toothed: *lower one* 3-lobed, the lobes broad, acute, densely tomentose. *Vexillum* large, roundly heart-shaped, keeled at the back, of a pale blue colour, striate near the base, the unguis channelled, and where it joins the vexillum ending in two callous points. *Wings* large, dark blue tinged with purple, unequal sided, blunt, slightly one-eared near the base on one side, and having a slender unguis on the other. *Keel* large, scarcely so long as the wings, of a bluish purple, deeply notched at the point, and divided a good way up from the base, eared near the base, with slender unguis. *Stamens* 10, one distinct, and nine joined nearly to the points, the points distinct and ascending: *anthers* slightly incumbent. *Ovarium* stipitate, villous, particularly on the upper edge. *Style* ascending, slightly hairy at the base and smooth upwards. *Stigma* slightly capitate.

This is one of the most beautiful hardy climbers ever introduced to this country; it is a native of China, and has now been several years in our gardens, and proves to be quite hardy, making one of the finest ornaments for a wall or bower in the Flower-Garden when covered with its large bunches of fragrant flowers. Our reason for giving it a place in this work, is to make all our Subscribers acquainted with so grand a plant, which any one may grow by the side of his house, or any other convenient situation, as it will thrive in any tolerable good soil, and may be increased by layers; or young cuttings, planted in sand, and placed under hand-glasses on a little bottom heat, will strike root readily.

Our drawing was made from a plant in the collection of the Comtesse de Vandes, at Bayswater; and we also saw it flowering very fine against a wall at the Nursery of Messrs. Whitley and Co. at Fulham, where we also observed plants of what we believe to be *W. floribunda*, another fine species, and equally hardy. The genus has been divided from the heterogeneous assemblage that was confused under *Glycine*, and was first established by Mr. Nuttall on *W. frutescens*, a North American species.



1. Calyx. 2. Vexillum. 3. Alæ or wings. 4. Keel spread open. 5. Vexillum, with the upper part taken off, to show the two callous points above the unguis. 6. The 9 Stamens joined into a tube, but distinct at the points. 7. The distinct one. 8. The villous Ovarium, terminated by the Style and capitate Stigma.



L.D. Smith. Del.

Pub. by R. S. Wood, July, 1877.

Wendell. Sc.

TRILLIUM erythrocarpum.

Red-fruited Trillium.

Natural Order. SMILACEÆ. *Brown prodr.* 292.

TRILLIUM. *Perianthium* 6-phyllum, patens: foliolis 3 exterioribus angustioribus calycinis: 3 interioribus petaloideis. *Stamina* 6. *Filamenta* glabra: *anthera* longitudinaliter adnata. *Stylus* 0. *Stigmata* 3, reflexa. *Bacca* trilocularis, polysperma.

T. erythrocarpum, pedunculo subcernuo: perianthii foliolis interioribus ovali-lanceolatis acutis undulatis recurvatis exterioribus subduplo longioribus, foliis ovatis acuminatis basi rotundatis brevissime petiolatis.

Trillium erythrocarpum. *Mich. fl. amer.* 1. p. 216. *Spreng. syst.* 1. p. 150. *Swt. hort. brit.* p. 415.

Trillium pictum. *Pursh. fl. amer. sept.* 1. p. 244.

Root tuberous, in our plant producing three stems. *Stems* erect, angular, smooth and glossy. *Leaves* ovate, taper-pointed, rounded at the base, or sometimes slightly cordate, with very short footstalks, triply-nerved, smooth and glaucous. *Pedicles* slightly nodding, smooth and glossy, slightly angular. *Perianthium* of 6 leaflets, spreading: 3 outer ones calyx-like, green, acute, about half the length of the inner ones, which are petal-like, ovate, acute, undulate, more or less recurved, white with a bright purple mark at the base, veined. *Stamens* 6: *filaments* smooth: *anthers* attached their whole length by their back to the filaments, two-lobed, bursting on each side: *pollen* cream-coloured. *Ovarium* smooth, 3-celled. *Style* none. *Stigmata* 3, reflexed or revolute, channelled on the upper side.

This plant is described by Pursh, as growing in sphagnous bogs, on the high mountains of Pennsylvania, Carolina, and Canada, flowering in May and June. The plant from which our drawing was made, was received last Winter from North America by Mr. Colvill, at whose Nursery our drawing was made the beginning of May last. The only

method to make it thrive in this country is to plant it out in a bed of peat soil, in rather a moist situation ; or where the ground is naturally of a boggy swamp it would succeed well, as would many other species of this genus, the greater part of them growing in moist situations in their native country : those species that grow in dry rocky situations are more easily cultivated, and will thrive well in a bed of sandy peat soil, in any open dry situation : at Mr. Knight's Nursery in the King's Road there is a large bed of *T. grandiflorum* quite established, and thrives and flowers as well as if growing on its native mountains.



1. The three outer leaflets of the Perianthium. 2. Three of the Stamens, front view, inserted in the base of the 3 inner leaflets of the Perianthium. 3. The other 3 Stamens, inserted in the 3 outer leaflets, back view. 4. Ovarium, terminated by the 3 Styles.



W. Smith del.

Pub by R. Sweet Aug 1847

Wendell &

CYPRIPEDIUM arietinum.

Ram's-head Ladies'-Slipper.

Natural Order. ORCHIDÆ. *Brown prodr.* 309.

Sect. VI. DIANDRÆ. Stamina 2 antherifera.

CYPRIPEDIUM. *Supra fol.* 71.

C. arietinum, caule folioso, foliis lanceolatis glabris obsolete nervosis amplexicaulibus, perianthium pentaphyllum, labello saccato-calcarato piloso.

Cypripedium arietinum. *Botan. magaz.* 1569. *Hort. Kew. ed. 2.* v. 5. p. 222. *Spreng. syst.* 3. p. 745.

Stems several from the same root, about 6 inches in height, densely clothed with very short rigid hairs, slender, erect or slightly flexuose, bearing four or five leaves. *Leaves* lanceolate, acute, sessile and clasping the stem, attenuated towards the base, concave on the upper side and keeled underneath, slightly veined, and striated with numerous longitudinal lines, smooth on both sides, the margins fringed with very short hairs. *Flowers* solitary, terminal, leaning forward, slightly fragrant. *Ovarium* angular, channelled, leaning forward, not twisted, clothed with very short hairs. *Perianthium* of 5 leaflets, green tinged with purple, and clothed with small glandular hairs: upper one ovately lanceolate, acute, arched over, the point slightly reflexed: 2 side ones very narrow, linear, acute; 2 lower ones spreading, falcately lanceolate, scarcely acute, about the length of or scarcely as long as the labellum. *Labellum* inflated at the mouth, tapering to the base, clothed with woolly hairs, particularly near the mouth, where they form a dense white patch; white, elegantly veined and netted with purple; inside densely hairy. *Column lobe* nearly round, spoon-shaped, keeled in the centre, which makes a hollow on each side: *side lobes* shorter, blunt, hollow, each containing an anther. *Stamens* 2, one in each of the side lobes. *Style* curved inward. *Stigma* large, thick, fleshy, nearly orbicular, slightly fimbriate.

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E

Several species of this beautiful and interesting genus were imported from North America, this Spring, by Mr. George Charlwood, and are now growing at the Nursery of Mr. Dennis, at Chelsea, where they have flowered magnificently; besides the present species, were *C. humile*, *C. parviflorum*, *C. pubescens*, and *C. spectabile*; of the latter species, a beautiful white variety flowered with him, of which we intend shortly to publish a figure: several other curious American plants, and seeds, were received by him at the same time, and may be procured from him at a moderate rate; amongst the rest, a great many plants of different species of *Sarracenia*, or Side-saddle flower.

The plant from which our drawing was made, in May last, was the strongest of the sort that we ever saw, producing three flower-stems at once; it was cultivated in a pot of light leaf mould; but we believe the best way to succeed well with the plants of this genus would be to plant them in a shady wood; the soil to be composed of decayed leaves and turfy peat soil, so as to imitate as much as possible their natural places of growth. Pursh mentions the present species as growing in sphagnous woods, about Montreal, in Canada; and we have been informed by a gentleman who visited that country, that the soil in which the different species grow wild, is so light, that by a very slight pull they may be taken clean out of the ground, without injuring a root, the whole being composed of decayed leaves and branches, so that the hand may be thrust several inches deep in the ground with ease.



1. Perianthium spread open, divested of the labellum, showing its 5 leaf-lets.
2. Labellum split open, to show its villous inside.
3. Inside view of the Style, with the anthers affixed to the two side lobes, and the column lobe at the back of the Stigma.
4. Outside view of the same, divested of the column lobe.
5. Column lobe taken from the Style.



ERYTHRINA Crista-galli.

Cock's comb Coral tree.

Natural Order. LEGUMINOSÆ. *Juss. gen.* 345.

Subordo I. PAPILIONACEÆ.—*Tribus* V. PHASEOLEÆ. *Supra fol.* 142.

ERYTHRINA. *Supra fol.* 142.

E. Crista-galli, caule arboreo, petiolis aculeatis glandulosis, foliolis ovalibus ovatisque glaucescentibus coriaceis obtusiusculis, calyce truncato subbidentato, staminibus 9 connexis decimo libero, carinâ calyce triplô longiore.

Erythrina Crista-galli. *Linn. syst. nat. ed.* 12. p. 473. *Mantissa* 99. *Lam. encycl.* 2. p. 391. *Willden. sp. pl.* 3. p. 916. *Hort. Kew.* 3. p. 9. *ed.* 2. v. 4. p. 252. *Smith exot. bot.* 2. p. 69. t. 95. *DC. prodr.* 2. p. 413. *Spreng. syst.* 3. p. 244.

A stout growing Shrub in our collections, but said to grow to a tree in its native country: *branches* straight, erect, slightly angular upwards, but cylindrical below and striated, of a pale pea green colour, changing to a bright glossy purple on the upper part amongst the flowers. *Leaves* alternate, on long footstalks, each producing three leaflets, which are also petiolate; *leaflets* oval, or ovate, entire, ending in a blunt point, of a thick leathery texture, dull green, or slightly glaucous on the upper side, more glaucous underneath, with a strong midrib, which sometimes produces a prickle, pinnately nerved and reticulately veined with very small inconspicuous veins; footstalks of the leaflets green, and fleshy, the terminal one producing two sessile glands at the base on the upper side, the side ones producing one each, which are slightly pedicled or raised up. *Petioles* purplish, generally producing 3 to 6 hooked prickles, angular, flattened on the upper side and rounded on the lower, very thick and fleshy near the base, smooth and glossy. *Flowers* axillary and terminal, the branch lengthening out into a sort of raceme, generally in threes, the upper part without leaves, of a deep scarlet, dying off to dark crimson. *Peduncles* of a bright dark purple or chocolate colour, at first ascending, but afterwards, from the weight of the flowers, becoming twisted, which makes the flowers resupinate. *Calyx* campanulate, smooth and glossy, of a purplish brown, contracted at the mouth before the flowers expansion, slightly striate; when the flower is expanded, it becomes truncate, with a brown membranaceous border, terminating at the back of the vexillum into a sort of blunt tooth, and

at the front of the keel into a sharp rigid subulate one, proceeding from below the point. *Bractes* deciduous, very small, membranaceous, one at the base of each peduncle, and two at the base of the calyx, one on each side. *Vexillum* very large, an inch and a half long, and an inch and a quarter broad, rounded, slightly concave, with a channel on the upper side, striated with numerous slender lines, that are strongest at the back, of a bright scarlet, crimson at the base, becoming darker as the flowers begin to fade. *Wings* very small, about half the size of *E. laurifolia*, shorter than the calyx which encloses them, very slightly 3-lobed, very pale and almost membranaceous, erect. *Keel* rather more than an inch in length, sharply keeled, acute, strongly striate. *Stamens* 10, ascending, 9 joined in a tube but distinct at the points, the tenth distinct, all extended beyond the keel. *Ovarium* pedicled, very woolly, terminated by a flat purple smooth Style. *Stigma* small, blunt, but scarcely capitate.

We have now the pleasure of giving our readers, as we promised, a figure of this splendid plant, which is without doubt the *E. Cristagalli* of Sir J. E. Smith's *Exotic Botany*, and which he ascertained to be the plant of Linnæus: without a comparison of the two plants, the *E. laurifolia* of No. 142. might be easily mistaken for the present subject; but when seen together, nothing need be more distinct: this is a much stronger growing plant than the other, with leaves of a very different form and texture, and the plant would most probably attain a large size in a warm climate; we are not certain that it is so hardy as the other, never having seen it tried in the open border; nor to the best of our recollection had we ever seen the plant till last October, when we saw it in fine bloom, in the grand Conservatory of Alexander Baring, Esq. at the Grange, in Hampshire, *E. laurifolia* flowering by the side of it at the same time; and from a fine specimen sent us from thence by Mr. P. Mc. Arthur, in May last, the present figure was taken; from the part where the flowers began, to the end of the shoot, was about 2 feet in length, and would have still been more, before the whole of the flowers were expanded; and the whole of the plants in the Conservatory, when we visited it, were thriving with the greatest luxuriance, and many of them were the finest specimens of the sort that we had ever seen, particularly several species of *Polygala*; and *Acacia vestita*, the long pendant branches of which hung down like a weeping Willow, and made a grand appearance.

The present plant will thrive well in any rich light soil; and young cuttings of it planted in sand, under hand-glasses, on a moist heat, will soon strike root. If intended to be tried in a warm border of the garden, it must be planted deep, so that the part which produces the annual shoots may be out of the reach of frost; the earth can easily be removed from it in Spring, to give it the benefit of the sun, to accelerate its breaking afresh. *E. laurifolia* requires the same treatment, to succeed well with it.

1. Calyx. 2. Vexillum. 3. Keel spread open, to show the inside. 4. The two very short wings. 5. The single Stamen. 6. The 9 connected ones. 7. The villous Ovarium, terminated by the smooth purple Style and small Stigma.



G.D. Don, ex Bot.

Pub. by R. Sweet Aug. 1827

W. & A. G. & Co.

NOCCA latifolia.

Broad leaved Nocca.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Subordo III. *CARDUACEÆ*.—Tribus IV. *Echinopsidæ*. *Kth. synops.* 2. p. 364.

NOCCA. Flores capitato-congesti, bracteati. *Involucrum* monophyllum, tubulosum, uniflorum; limbo diviso. *Flosculus* solitarius, tubulosus, hermaphroditus. *Antheræ* basi bidentatæ. *Akrnia* magis minusve compressa, coronata urceolo minuto fimbriato aut laciniato. *Receptaculum* alveolato-ciliatum.

N. latifolia, caule fruticosa, foliis sessilibus amplexicaulibus oblongis acuminatis triplinerviis serrulatis integerrimisve supra basim ampliatis supra scabris: subtus mollissime pilosis, capitulis corymboso paniculatis.

Nocca latifolia. *Cervantes Mss. in herb. Lamb. Sot. hort. brit.* p. 210.

Paulli de la Llave et Joannis Lexarza Novorum vegetabilium descriptiones in lucem prodeunt opera. Reip. Mexic. CIV. fasc. 1. p. 31.

A tall strong-growing, upright, soft-wooded shrub: *branches* furrowed or striate, thickly clothed with a short white pubescence, the upper parts with long spreading villous hairs. *Leaves* opposite, sessile, more or less clasping the stem at the base, oblong or elliptical, taper-pointed, triplinerved, attenuated towards the base, and entire; the upper part on the large leaves serrulate, the small ones quite entire, the upper side and margins rough, and clothed with short hairs, underneath very soft, feeling like velvet, clothed with short soft woolly hairs, strongly nerved, and reticulately veined. *Flowers* white, numerous, fragrant, in terminal corymbosely paniced heads. *Bractes* 6 to 8, surrounding the head of flowers, leaflike, unequal in size, elliptically lanceolate, acute, rough, clothed with short hairs, and fringed with hairs that are tipped with small transparent glands. *Receptacle* slightly honey-combed, fringed with short hairs. *Involucre* one-leaved, tubular, one-flowered, thickly clothed with long soft

hairs : limb 5-cleft, the laciniae unequal, very hairy, two of them more than double the length of the others. *Florets* large, tubular, 5-toothed, very woolly outside, contracted from about the middle to the base, the teeth erect, ovate, acute. *Stamens* 5, inserted in the tube about the middle, where it begins to become inflated : *filaments* smooth, distinct : *anthers* united into a tube, each bearing two short teeth at the base. *Akenia* or *seed* enclosed in the tubular Involucre, compressed, terminated by a short crown, that is fringed with short hairs.

Our drawing of this stately growing plant was made from specimens in June last, received from A. B. Lambert, Esq., in whose collection, at Boyton, it has flowered this Summer for the second time. Mr. Lambert received the seeds from Mexico, sent by Cervantes under the name that we have adopted, and it has since been published by Llave and Lexarza in a work on several new genera and species of Mexican plants. In Mr. Lambert's garden it is planted out by the side of a wall in a southern aspect, where it grows freely to the height of 10 or 12 feet, and produces its flowers, dying back a good way in Winter, and making fresh wood for the following year ; the flowers are not very splendid, but they are pretty and singular, and very sweet-scented, which makes it a desirable plant. It will thrive well in any rich light soil, and young cuttings, planted under hand-glasses, or even in a shady border, and well watered, will soon strike root.

Mr. Lambert also possesses plants of *N. rubra*, and some other species.



1. One of the Bractes at the base of the flowers. 2. Tubular Involucre, that encloses the seed. 3. Floret. 4. The same spread open, to show the veins alternating with the teeth. 5. The upper part of the tube taken off, to show the insertion of the Stamens, the filaments distinct, and the anthers united. 6. Seed, terminated by the Style and Stigma.



L. D. Smith, Del.

Publ. by F. Sweet Aug. 1827

Walden, N.

CLAYTONIA grandiflora.*Large-flowered Claytonia.**Natural Order.* PORTULACÆÆ. *Juss. gen.* 312.*CLAYTONIA.* *Supra fol.* 16.

C. grandiflora, foliis lineari-lanceolatis utrinque attenuatis, racemis solitariis multifloris, sepalis obtusissimis, petalis ovalibus obtusis integris striatis, radice tuberosa.

Root a large tuber. *Stems* numerous, proceeding from the root, spreading, succulent, dotted all over with numerous small white dots. *Leaves* linearly lanceolate, very long, tapering to both ends, channelled on the upper side and slightly keeled on the lower, smooth but dotted with numerous small dots, succulent; two on each stem, opposite, sessile. *Raceme* terminal, many-flowered, drooping before the expansion of the flowers. *Pedicles* smooth and glossy, slender, dotted, erect when the flowers are expanded, afterwards nodding. *Calyx* 2-valved; sepals ovate, very blunt, nearly truncate at the points. *Petals* 5, large, oval, rounded at the points, entire, of a blush-colour, veined with numerous branching light purple veins, and a yellow spot near the base of each. *Stamens* 5, inserted in the base of the petals: *filaments* smooth, broadest towards the base, attached to the back of the anthers, which are 2-lobed, and sagittate at the base. *Ovarium* smooth, triangular, 3-celled. *Style* smooth, erect. *Stigmas* 3, connivent, spatulate, slightly fimbriate.

Our drawing of this fine and rare plant, was made from one in the collection of Robert Barclay, Esq., of Bury-hill, near Dorking, where we also saw the true *C. virginica* in bloom, with which we have no doubt but the present plant, and another very distinct one, and perhaps some others, have been confused by authors, from the want of seeing the plants

in a living state to compare : the difference was first pointed out to us by Mr. D. Cameron, Mr. Barclay's gardener. The *C. virginica* of Linnæus, is the one generally cultivated by that name in the gardens, with narrow linear leaves, and obovately cuneate retuse petals, as may be readily ascertained by comparison of the figures referred to by him ; it is also the *C. virginica* of Pursh. The *C. virginica* of the Botanical Magazine, t. 941, with linear leaves, and entire narrow petals, is very different from both, and should be named *C. Simsii* ; this is also the plant of the second edition of the Hortus Kewensis ; other authors, that describe their plant with entire petals, intend either that plant, or the present, or perhaps both, though the three plants are as perfectly distinct as any plants in one genus had need be.

The present plant, as well as *C. virginica* and *C. caroliniana*, were cultivated in a border of peat soil in Mr. Barclay's garden, where they were all flourishing well, and flowering abundantly, in April and May last, and we believe have all ripened seeds : the seeds of those, as of many other herbaceous plants, should be sown soon after they are ripe ; the young plants will then become strong before Winter, and some of them will flower the following Spring ; if the seeds are not sown till Spring, the plants will take another year before they bloom.



1. Calyx, showing the two broad sepals.
2. The 5 Stamens attached to the base of the petals, the upper part cut off to show the form of the filaments.
3. Ovarium, terminated by the Style and three Stigmas.



J. E. Smith del.

P. & S. by A. J. Smith Sep. 1847

W. & A. Smith del.

HYPECOUM procumbens.

Procumbent Hypecoum.

Natural Order. PAPAVERACEÆ. *DC. syst. 2. p. 67.*

HYPECOUM. *Sepala* 2 lanceolata. *Petala* 4 inæqualia, 2 exteriora majora, interiora sæpius apice 3-fida, lobo medio cochleariformi. *Stamina* 4, petalis opposita. *Ovarium* elongatum. *Stigmata* 2 substipitata. *Capsula* siliquæformis, longa, bivalvis, sæpius articulationibus transversè nodosa, placentis 2 lateralibus. *Semina* inter articulationes solitaria, alternatim utrique placentæ adfixa, exarillata. *Embryo* filiformis, arcuatus. *Albumen* carnosum.—*Herbæ* annuæ, parvæ, *succo* flavo sætæ. *Radices* simplices, perpendiculares. *Folia* glabra, glauca, radicalia petiolata pinnatisecta, segmentis in lobos plurimos pinnatim multifidis. *Scapi* caulesco sæpius plurimi bifidi aut dichotomi. *Folia caulina* floralive sub ramis pedicellisve sita, sessilia, radicalibus cæterum similia. *Flores* terminales, flavi, reverè solitarii sed subumbellatim nascentes. *DC. syst. 2. p. 101.*

H. procumbens, foliis decompositis, laciniis lineari-lanceolatis acutis, petalis 3-lobis externis dorso glabris, siliquis arcuatis. *Spreng. syst. veg. 1. p. 491.*

Hypecoum procumbens. *DC. syst. nat. 2. p. 101. Prodr. 1. p. 123. Ræm. et Schult. syst. 3. p. 482. Willden. sp. pl. 1. p. 704. Sibth. fl. græc. 2. p. 46. t. 155. Schkuhr. handb. 1. p. 90. t. 27. Smith in Rees cycl. n. 1.*

Root annual, simple, perpendicular, of a pale yellow colour. *Leaves* glaucous, smooth: radical ones several, petiolate, pinnately multipartite: leaflets bipinnatifid, the segments linearly lanceolate, acute, entire or toothed a little: stem-leaves with shorter foot-stalks, and less divided. *Scapes* several, erect when in flower, but becoming procumbent or bending when in fruit, branching at the point into 2 to 5 branches; at first when in flower approaching to an umbel, but afterwards lengthening out into a sort of raceme. *Floral-leaves* many parted at the base. *Pedicles* erect, cylindrical, continuing to increase in size with the seed pod. *Flowers* bright yellow. *Sepals* 2, lanceolate, acute, streaked. *Petals* 4,

unequal, all smooth at the back; the two outer ones largest, oval-oblong, concave, bluntly 3-lobed; 2 interior ones much smaller and narrower, trifid above the middle, the upper segment denticulate. *Pods* flat, falcate, or shaped like a sickle, taper-pointed, curved inwards, articulate or jointed and furrowed with several furrows, the joints knotted.

The present plant varies very much in size and form, according to the soil and situation in which it is grown, so that our present figure resembles *H. imberbe* of the *Flora Græca*, more than it does the *H. procumbens* of the same work; but we have seen the plants growing in both states, so that there can be no doubt of ours being the true plant. *H. imberbe* is readily distinguished by its fimbriate sepals, and the upper lobe of the trifid petals being much broader and cordate, and not toothed.

Our drawing was taken from a plant at the Garden belonging to the Apothecaries' Company, at Chelsea, where it sows itself in the ground, and comes up annually without any trouble; it is a very pretty annual plant, continuing a long time in bloom, and if sown in Autumn will flower early in Spring, but if sown in Spring, it will flower later in the Summer; it only requires to be sown in the open borders, and to be kept free from weeds. Seeds ripen in abundance.



1. The two Sepals. 2. The two outer Petals. 3. One of the inner ones, back view. 4. The other one, front view. 5. The four Stamens. 6. Ovarium terminated by two Stigmas.



*Col. lutea L. (var. *lutea* L.)*

Wied. & Schell. del.

AQUILEGIA alpina.

Alpine Columbine.

Natural Order. RANUNCULACEÆ. *DC. reg. veg. syst.* 1. p. 127.

Tribus IV. HELLEBOREÆ. *Æstivatio* calycis et corollæ imbricata. *Petala* nunc 0, nunc irregularia bilabiata nectarifera. *Calyx* petaloideus. *Carpella* capsularia intùs dehiscentia polysperma. *DC. prodr.* 1. p. 44.

AQUILEGIA. *Calyx* 5-sepalus deciduus colorato-petaloideus. *Petala* 5 supernè hiantia bilabiata, labio exteriori magno plana, interiore minimo, deorsùm producta in calcaria totidem cava apice callosa inter sepala exserta. *Stamina* numerosa in phalanges 5-10 disposita, interiora abortiva antheris nullis filamentis dilatatis membranaceis oblongis. *Ovaria* 5. *Capsulæ* totidem erectæ polyspermæ stylis acuminatæ.—*Herbæ perennes erectæ*; radices *fibrosæ*; folia *radicalia* aut *inferiora* longè petiolata, petiolo trifido biternatim secta, segmentis trifidis dentatis sæpius obtusis; *superiora* in lobos lineares partita aut secta; flores *terminales*, cærulei, albi, rosei aut purpurei, rarissimè sordidè flavescentes. *DC. reg. veg. syst.* 1. p. 333.

A. alpina, calcaribus rectis apice subincurvis limbo petalorum dimidio brevioribus, caule 2-3-floro folioso, foliorum segmentis in lobos lineares profundè multifidis. *DC. syst.* 1. p. 336-337. *Prodr.* 1. p. 50.

Aquilegia alpina. *Linn. spec.* 752. *DC. fl. fr.* 4. p. 912. *Deless. ic. sel. t.* 48. *Lodd. bot. cab. t.* 657. *Spreng. syst.* 2. p. 630. *Swt. hort. brit. p.* 6.

Root perennial, herbaceous. *Stem* about a foot high, slightly flexuose, clothed with a short pubescence, bearing from 3 to 5 leaves, and 2 or 3 flowers. *Leaves* slightly glaucous: lower ones on long foot-stalks, twice ternate, the leaflets deeply 3-lobed or 3-parted, broadly cuneate, divided into numerous short broadish linear blunt segments, reticulately veined, lightest underneath: those higher up ternate, the leaflets petiolate, 3-parted; upper ones 3-lobed or entire, linear, acute. *Petioles* dilated at the base, nearly cylindrical, or slightly flattened on the upper side, thickly

clothed with short spreading hairs. *Flowers* very large, 3 inches across, of a dark azure blue, a little nodding. *Peduncles* pubescent, cylindrical. *Calyx* of 5 sepals, deciduous; sepals divaricately spreading, broadly ovate, tapering towards the point, which ends abruptly as if snipt off, folded in towards the base, to make room for the large hollow spurs of the petals, more or less rugose, unguiculate, of a dark blue, brown at the points, slightly pubescent towards the base. *Petals* 5, alternate with the sepals, affixed by the centre, of rather a lighter blue, broadly wedge-shaped, each terminated at the back into a long hollow spur, the point of which is hooked inwards, and is more or less pubescent. *Stamens* numerous, surrounding the ovariums, the filaments unequal in length, produced in sets, attached to the base of the anthers: sterile ones dilated and membranaceous, bearing no anthers.

Our drawing of this very rare and magnificent plant was taken in June last, at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, where it was in fine bloom for a considerable time, and has ripened its seeds, so that we hope it will soon become more common, as it ought to be in every collection. The plant from which our drawing was made, was grown in the open border, and was thriving with great luxuriance, so that we believe it has generally been lost by being confined in pots; it prefers a rich loamy soil, and the seeds should be sown as soon as ripened; the plants will then become strong before Winter, and will bloom the following Summer.



1. One of the Sepals. 2. One of the Petals, showing the large spur at the base, a little curved at the end. 3. One of the barren Stamens. 4. One of the fertile ones. 5. The ♀ CarPELLA nearly full grown.



1. 2 A. 10. 20

Pl. in E. Ward. Aug. 1827

Ward. in

ORCHIS coriophora.

Bug-scented Orchis.

Natural Order. ORCHIDÆ. *Brown prodr.* 309.

Sect. I. MONANDRÆ. *Anthera* adnata subterminalis persistens. *Pollinis massæ* e lobulis angulatis elasticæ cohærentibus: basi affixæ. *Brown Hort. Kew. ed. 2. v. 5. p. 188.*

ORCHIS. Supra fol. 65.

• *Radice tuberosa indivisa.*

O. coriophora, caule folioso elato, foliis lanceolatis acutis striatis, labello trilobo; medio angustiore longiore; lateralibus denticulatis, foliolis perianthii conniventibus, calcar conico ovarium brevius. *Orchis coriophora.* *Willden. sp. pl. 4. p. 14.* *Pers. syn. 2. p. 503.* *Hall. helv. t. 34.* *Jacq. aust. 2. t. 122.* *Spreng. syst. 3. p. 637.* *Sw. hort. brit. p. 382.*

Roots composed of two fleshy tubers, above which are produced several thick succulent fibres, which spread in various directions. *Stem* in our plant about 16 inches in height, smooth, erect, slightly angular, clothed with leaves. *Leaves* lanceolate, acute, channelled on the upper side, and striated with longitudinal furrows, sheathing the stem at the base, of a pale green, covered all over with small glittering scale-like specks. *Spike* terminal, many-flowered. *Flowers* brown, strong-scented, resembling the smell of bugs. *Bractes* lanceolate, acute, sheathing the ovarium at the base, the points curved inwards, scarcely reaching to the point of the perianthium, the margins transparent, with a strong green nerve down the centre. *Ovarium* twisted, angular, longer than the spur. *Perianthium* leaning forwards, of 5 leaflets, connivent or forming an arch, and all stuck together, the two inner ones smallest: 3 outer leaflets oblongly lanceolate, acute, the middle one broadest, and equal sided, the side ones unequal sided: 2 inner ones very narrow, linearly lanceolate, acute. *Labellum* 3-lobed, of a brownish green, spotted with

numerous small purple spots : middle lobe longest, oblong, obtuse, entire : side ones obliquely ovate, acute, more or less toothed with small teeth. *Spur* conical, bluntish, more than half as long as the ovarium, at first bending round like the ovarium, but at last becoming straight or nearly so. *Anther* 2-lobed, each lobe enclosed in a purple hood. *Pollen-masses* on slender pedicles, each seated on a small purple gland at the base.

Our drawing of this curious plant was taken at the Nursery of Mr. Colvill, from a bulb received from Professor Tenore, from the Royal Botanic Garden at Naples, and at the same time we saw several others of the same species in flower, that had been received from the late Mr. Schleicher, collected in Switzerland. It appears to be a very free growing species, and its flowers are very singular, but they possess a disagreeable scent. It succeeds well in a light sandy loam, and from its appearance we suspect it would prefer a little chalk mixed with it ; the ground in which it is planted should have a dry bottom, as nothing is more injurious to it than too much moisture when in a dormant state.

We were much gratified in July last, with the appearance of a collection of hardy Orchideæ, at the Nursery of Messrs. Young, at Epsom, where they were planted in beds, made of their natural soil, and were growing and flowering much stronger than when growing wild.



1. The Perianthium spread open, showing the 6 leaflets, with the twisted Ovarium at the base. 2. Labellum three-lobed, the side lobes toothed, showing the Spur at the base. 3. The Pollen masses detached and pedicelled, seated on little purple glands.



L. Dufrenoyi Steud.

Pink in A. Brach. Sept. 1817

Wiedemann de

COLLINSIA verna.

Vernal Collinsia.

Natural Order. SCROPHULARINÆ. *Brown prodr.* 433.

Sect. II. Stamina 4 antherifera.

COLLINSIA. *Calyx* quinquefidus. *Corolla* bilabiata clausa; labio superiore bifido, inferiore trifido; lacinia intermedia carinato-saccata genitalia arcte tegens. *Capsula* rotunda, subunilocularis, subquadrivalvis. *Semina* duo vel tria.—*Planta annua*; folia *opposita et verticillata, integra*; pedunculi *verticillati axillares, uniflori*. Nuttall in the Journal of the Academy of Natural Sciences of Philadelphia. v. 1. p. 190.

C. verna, foliis radicalibus petiolatis rotundato-obovatis spathulatisve denticulatis: caulinis sessilibus ovato-lanceolatis: superioribus linearibus verticillatis, pedunculis axillaribus solitariis subverticillatis, corollæ laciniiis subemarginatis.

Collinsia verna. Nuttall loc. cit. p. 190. pl. 9. *Gen. amer.* v. 2. p. 46.

“*Root* fibrous, annual. *Stem* often simple, or branched towards the base, terete, nearly smooth, (pubescent in our plant,) about twelve inches high. *Radical leaves* petiolate, roundish, or obovate-spathulate, denticulate; *stem-leaves* ovate or ovate-lanceolate, sparingly denticulate and somewhat scabrous on the margin, sessile and subamplexicaule, sometimes a little pubescent, but usually smooth; *floral leaves* verticillated in threes, fives or sixes, ovate-lanceolate or linear lanceolate, acute and mostly entire, diminishing upwards to the size of mere bractes. *Peduncles* 1-flowered, axillary, commencing usually to appear with the third pair of leaves, filiform, nearly erect and somewhat pubescent, about an inch in length. *Calyx* subcampanulate, cleft more than half way down, and membranaceous at the base; segments greenish, semi-lanceolate, acute, the two lower laciniae horizontally divergent. *Corolla* nearly in the form of a violet, bilabiate, closed; upper lip white, spirally reflected, bilobate with a small, prominent, arched palate, of a yellow colour spotted

with saffron ; all the lobes of the flower obovate and emarginate ; lower lip trifid, bright azure blue, lateral segments horizontally deflected, coalescing with the central lobe, which appears in the form of a closed carinated sacculum including the stamina and style, and rarely opening except for an instant when irritated apparently by heat, as with many of the *Hedysarums* ; tube of the corolla short and gibbously curved, forming with the sacculum an oblong canal. *Stamina* didynamous, all arising from the lower lip ; *anthers* yellow, horizontal : the rudiment of a fifth stamen at the base of the corolla tube. *Style* long and capillary. *Stigma* scarcely any. *Germ* 4-seeded. *Capsule* round, acute, shorter than the persistent calyx by which it is inclosed, partly 1-celled and 4-valved, by abortion 2 and 3-seeded ; valves opening rather more than half way down, where undivided, uniting with the small and imperfect receptacular dissepiment ; only about a third part of the capsule is divided by a partition. *Seed* brownish, oval, or elliptic, convex on the outer side, inner side umbilicately perforated ; externally a little rugose and reticulately punctured ; (about the size of mustard seed.) *Corculum* flat and erect, greenish ; radicle inferior. *Perisperm* cartilaginous, including the corculum, perforated in the centre on the inner side, by which orifice the seed is attached to the receptacle." *Nuttall above quoted. p. 191-192.*

First described by Mr. Nuttall in the work above quoted, and from which we copied the above description ; he observes that he first became acquainted with it in 1810, when he met with it on the alluvial soils of the Alleghany, and on the borders of Lake Erie, and again in 1816 on the banks of the Ohio. Our specimens we received from Mr. George Charwood, in June last, who raised them from seeds received by him from his friend in Philadelphia, in the cargo of curious plants and seeds that we mentioned in our last number ; the only thing which disagrees with Nuttall's figure and description in our specimens, is that ours appears to be rather more pubescent. It is a very beautiful annual plant, requiring nothing but to be sown in the borders of the Flower-garden, in the Spring, and to be kept free from weeds.



1. One of the Root-leaves. 2. Calyx. 3. Corolla spread open, showing the 4 Stamens enclosed in the keel of the under lip, with the barren one at the base of the tube. 4. Ovarium, terminated by the Style and small Stigma.

1. *Stem and base*2. *Stem and base* 3. *Petal*

Engraved by

PHLOX canadensis.*Blue Canadian Lychnidea.*

Natural Order. POLEMONIACEÆ. *D. Don obs. on Polemon. p. 4.*
PHLOX. Supra fol. 29 et 190.

P. canadensis, caulibus erectis subpubescentibus, foliis inferioribus ovatis : superioribus lato-lanceolatis oppositis alternisque, ramulis pubescentibus paucifloris compactis, calycibus subulato-linearibus, corollæ laciniis lato-obcordatis ; tubo subcurvato adscendente calyce sesquilongiore.

Plant growing in a thick tuft, producing a great many branches : *branches* erect, glossy, green or tinged with purple, more or less spotted. *Leaves* sessile, nearly smooth, or very slightly pubescent, the margins slightly fringed, and the nerves underneath clothed with short recurved hairs : lower ones and those on the sterile shoots ovate, acute, attenuated towards the base ; those on the flower stems sometimes opposite and sometimes alternate, broadly lanceolate or oblong, broad at the base, upper ones gradually narrower and more pointed. *Flowers* blue, tinged with lilac, lightest towards the base, in a terminal few-flowered panicle, the stems of which are densely clothed with short hairs that are terminated with minute glands. *Pedicles* short, thickening towards the calyx. *Calyx* 5-cleft, densely clothed with glandular hairs, the laciniæ subulately linear, erect, or a little spreading at the points. *Corolla* tubular, with a 5-cleft, spreading limb : tube slender, straight, or a little curved and ascending, striated, about half as long again as the calyx : *laciniæ* of the limb broadly obcordate, about half the length of *P. divaricata*, and much broader. *Stamens* 5, inserted in different parts of the tube, and included : *filaments* very short : *pollen* bright yellow. *Ova-*

rium smooth, conical. *Style* short, smooth. *Stigma* trifid, the segments erect.

Our drawing of this pretty new species, was taken from a plant at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, in July last; it had been imported from Montreal, in Canada, last Winter, under the name that we have adopted; it is related to *P. divaricata*, and also to *P. pilosa*, but is a stronger growing plant, and more upright than either of those, and the shape of the flowers are different from *P. divaricata*, as well as the habit of the plant. It appears to be of free growth, and forms a large tuft, so that it will be readily increased, thriving well in the open border of the flower-garden, in the common garden soil, and may be readily increased by cuttings, planted under hand-glasses, or by dividing at the root.

Numerous species of this beautiful genus appear to have been confused by different authors; perhaps the present plant has been confounded with *P. divaricata*; several other species, we believe, have been confused with *P. maculata*, *P. glaberrima*, and others, which can only be put to rights by seeing them growing together; dried specimens resemble each other so much, that it is scarcely possible to decide any thing by them, where the species are so nearly related, but when seen grown together, their difference is readily perceived.



1. Calyx. 2. Tube of the Corolla spread open, to show the insertion of the Stamens. 3. Ovarium, terminated by the Style and trifid Stigma.



I. Pinnatifida

Act. p. 1. 1877. Oct. 1877.

Walden & Co.

HERBERTIA pulchella.

Plaited-leaved Herbertia.

Natural Order. IRIDÆE. *Brown prodr.* 1. p. 302.

HERBERTIA. *Perianthium* corollaceum, sexpartitum; tubo brevissimo: laciniis tribus interioribus multo minoribus. *Stamina* 3. *Filamenta* connata. *Antheræ* lineares. *Stigmata* 3, laminæformia, bifida. *Capsula* oblonga, trilocularis, polysperma. *Semina* angulata. —*Herbæ caulescentes.* *Radix bulbosa.* *Folia ensiformia v. linearia, plicata, vaginantia.* *Flores terminales, spathucei, cærulei.*

H. pulchella, foliis lineari-ensiformibus utrinque acutis plicatis, perianthii laciniis basi tuberculato-barbatis.

Root an oblong or flattened bulb, clothed with several brown membranaceous shells. *Leaves* narrowly ensiform or linear, plaited, acute, tapering towards the base, and sheathing the stem, more or less glaucous, those on the stem shorter and narrower. *Stem* slender, leafy, flexuose, simple or divided, smooth, cylindrical. *Spatha* 2-valved, the inner one much the longest, convolute, acute, with membranaceous margins, enclosing the flowers before expansion. *Peduncles* slender, cylindrical, inclosed in membranaceous bractes. *Flowers* blue, tinged with purple, and striped with white. *Perianthium* seated on the ovarium, petal-like, deeply 6-parted, with scarcely any tube, the laciniæ connected at the base; the three outer ones much the largest, obovate, attenuated towards the base, spreading, or slightly reflexed, striated with darker veins, and striped with white a little above the base, bearded below the white stripe with numerous dark blue tubercles, the upper part smooth and glossy: three inner laciniæ very small, erect, lanceolately spathulate, also striate, purple, tuberculate towards the base, but less so than the outer ones. *Stamens* 3, the filaments connected into a tube the length of the style,

which they enclose, the points and part of the anthers sticking to the back of the stigmas: *anthers* linear, extending beyond the stigmas. *Ovarium* smooth, slender at the base, and thickening upwards. *Style* short, smooth, pale purple. *Stigmas* 3, spreading, linear, a little dilated upwards, bifid, the segments linear, acute, spreading. *Capsule* oblong, 6-channelled, every other channel deeper, 3-celled, many-seeded. *Seeds* angular, horny, close-pressed on each other.

Several bulbs of this beautiful plant, with many others, were received, last Spring, by Mr. J. B. Mackay, of the Clapton Nursery, that had been collected on an Island in the Bay of Maldonado, by Mr. J. Anderson, the Collector on board of Captain King's ship, who has made a great collection of plants and seeds, in and near the Straits of Magellan, some of which Mr. Mackay expects to receive shortly.

The present very distinct genus, which we believe has never before been published, we have named in compliment to the Honourable and Reverend William Herbert, Author of an interesting work on the *Amaryllideæ*, and who, we believe, possesses the greatest number of species of bulbs in this country, which he cultivates with great success, at his seat at Spofforth, near Harrogate, Yorkshire.

The bulbs of this plant require the same sort of treatment as the common Tiger-flower, *Tigridia pavonia*; to be planted out in a border of light sandy soil in Spring; and, after flowering, to be taken up and kept dry, out of the reach of frost till the following Spring; or if left in the ground all the Winter, they will require covering, like the Cape bulbs; if grown in pots, an equal mixture of turfy loam, peat, and sand, will suit them very well. Seeds ripen plentifully, so that we hope to see it shortly in general cultivation.



1. The 3 inner segments of the Perianthium. 2. The three Stamens, with their filaments united in a tube, but distinct at the points, the tube split open. 3. Style, and three Stigmas. 4. Ripe Capsule, open at the top, showing the three partitions. 5. One of the Seeds.



VIOLA pubescens.*Downy Violet.**Natural Order.* VIOLARIÆ. *DC. prodr.* 1. p. 287.*VIOLA.* Supra fol. 69.

Sect. III. CHAMÆLANIUM. Stigma sphaeroides-capitatum, utrinque fasciculis pilorum onustum, foraminulo minuto sublaterali. *Stylus* compresso-clavatus. *Stamina* oblonga approximata. *Torus* planiusculus. *Capsula* sæpè trigona. *Folia seminalia* sæpiùs subrotunda. *Pctala* 2 ungue barbata. *DC. prodr.* 1. p. 300.

V. pubescens, caulibus simplicibus erectis v. subprocumbentibus angulatis superne villosis, foliis lato-cordatis acuminatis obtuse serratis pubescentibus, stipulis ovatis oblongisve subserratis, sepalis lanceolatis acutis patentibus; calcare brevissimo subsaccato, capsula glabra.

Viola pubescens. *Nutt. gen. amer.* 1. p. 150. *DC. prodr.* 1. p. 301. *Swt. hort. brit.* p. 37.

Perennial. *Stems* several from the same root, not branched, erect or sometimes procumbent, angular, smooth on the lower part, the upper part clothed with spreading villous hairs. *Leaves* broadly cordate, rather bluntly acuminate, bluntly serrate, the teeth curved inwards, more or less pubescent, strongly and numerously veined underneath, the main ones springing from the base, and branching in all directions. *Petioles* slightly winged, villously pubescent. *Stipules* broad, ovate or oblong, bluntish, the upper ones acute, some entire, others slightly serrulate, pubescent. *Peduncles* slender, furrowed, pubescent, with two small bractes about the middle of each. *Bractes* one on each side, ovate, obtuse, alternate or rarely opposite. *Flowers* bright yellow, marked with dark stripes. *Calyx* of 5 spreading sepals, which are lanceolate, acute, pubescent, with white membranaceous margins. *Corolla* of 5 petals,

the upper ones and side ones nearly equal in size, spreading: *upper ones* not bearded, with 2 faint blue lines near the base, one of which is much larger than the other: *side ones* bearded a little above the unguis with a dense tuft of clavate pellucid hairs, and striped with 2 or 3 blue lines from the base: the *lower one* producing a short blunt pouch at the base, and elegantly striped with numerous purple lines, most of which are slightly branched. *Stamens* 5, *anthers* fixed by their back to the filaments, which terminates beyond them in a dry brown membrane. *Ovarium* smooth, or sometimes slightly pubescent, even on the same branch. *Style* smooth, produced on one side, gradually thickening upwards. *Stigma* capitate, flattened, with a fascicle of hairs on each side. *Capsule* smooth and glossy.

We are glad of the opportunity afforded us of giving a figure of the present plant, to show the difference between it and *V. eriocarpa*, already published at No. 102; the present plant is readily distinguished by its simple stems and smooth capsules, the flowers are also of a brighter yellow, and the upper petals not bearded.

Our drawing was made from fine specimens that we received from Robert Barclay, Esq. of Bury-hill, near Dorking, who imported it from Montreal, in Canada, last Winter; it is now growing luxuriantly in the open borders of his garden, and has ripened abundance of seeds; we also obtained specimens of the same species from the Nursery of Messrs. Whitley, Brames, and Milne, of Fulham, who had also received it from Montreal, with many other curious plants, so that it will probably soon become plentiful, as it must certainly be very hardy, thriving well in a rich light soil, and may be increased by dividing at the root, or by seeds; the seeds, if sown as soon as ripened, will produce flowering plants for the next season.



1. Calyx. 2. The lower petal, showing the short spur or pouch at the base.
3. The two upper smooth petals, and the 2 side ones, bearded above the unguis.
4. The 5 Stamens spread open. 5. Ovarium, terminated by the Style and Stigma. 6. The smooth Capsule.



L. P. Smith del.

Pub. by R. Howard, Oct. 1877

Woodward & Lo.

PHLOX odorata.*Sweet-scented Lychnidea.*

Natural Order. POLEMONIACÆ. *D. Don obs. on Polem. p. 4.*
PHLOX. Supra fol. 29 et 190.

P. odorata, caule erecto superne ramoso scabriusculo, foliis acuminatis glabris margine scabris : inferioribus linearibus : mediis oblongo-lanceolatis ; superioribus cordato-ovatis, ramis corymbosis multifloris subfastigiatis, dentibus calycinis ovatis brevi acuminatis erectis, corollæ laciniis cuneato-obovatis.

Phlox bimaculata. *Hortulanorum.*

Stem straight, erect, in our specimens three feet high, branching from about the middle, bluntly four-sided, green, more or less spotted with irregular spots and marks, the lower part smooth and glossy, upper part and the small branches roughish, and clothed with a short pubescence. *Leaves* variable, smooth, and glossy ; tapering to a long slender point ; the margins rough, of a dark glossy green on the upper side, underneath paler ; lower ones linear, the next lanceolate, others oblongly lanceolate or ovate, the upper ones cordately ovate, all opposite or very rarely slightly alternate, in which it differs from *P. maculata*, *P. latifolia*, and some others, in which the upper leaves are mostly alternate. *Branches* opposite, slender, pubescent, terminated with a cymose corymb of flowers, at the base of which are two leaves opposite to each other. *Corymbs* rather crowded with flowers, flattened at the summit, the fascicles several-flowered. *Bractes* narrow, linear or subulate. *Pedicles* short, purplish, pubescent. *Flowers* of a bright red lilac, very sweet-scented. *Calyx* short, tubular, 5-toothed, 5-angular, smooth, membranaceous between the angles, of a brownish purple : teeth short, ovate, with a short acuminate point, erect or the

points very slightly reflexed. *Corolla* tubular, with a 5-cleft spreading limb: tube purple, striate, curved upwards, more than three times longer than the calyx: segments of the limb spreading, cuneately obovate, a little rounded; mouth, of a bluish purple. *Stamens* 5, inserted in the tube, 3 extending to the mouth, the anthers partly exserted, and two lower down in the tube: *filaments* short, attached to the back of the anthers: *pollen* golden yellow. *Ovarium* smooth and glossy. *Style* smooth, about three parts the length of the tube. *Stigma* trifid.

Our drawing was made from a fine plant, sent us by Mr. George Wheeler, Nurseryman, at Warminster, under the name of *P. bimaculata*; it has probably been confused by some with *P. maculata*, but is certainly a very distinct plant from any that are at present described; its flowers are delightfully fragrant, so that it is worthy a place in all collections; as the scent still continues in the flowers of the dried specimens, that were gathered in June last. It is a stately upright plant, attaining the height of three feet, and some of the panicles of the flowers are above a foot in length, and continue in bloom a long time. It succeeds well in the borders of the flower-garden, in the common garden soil, but it is also well to keep some plants in pots to be protected in frames in severe weather, as the plants in the ground are sometimes injured: it may be increased by dividing at the root, or cuttings, planted under hand-glasses, strike root readily.



1. One of the lower linear leaves. 2. One of the lanceolate ones from the middle of the stem. 3. Calyx. 4. Tube of the Corolla spread open, to show the insertion of the Stamens. 5. Ovarium, terminated by the Style and trifid Stigma.



S. D. Donnell-Smith

Pub. by H. Ward, Nov. 1. 1887

Ward

AMPHEREPHIS intermedia.

Intermediate Ampherephhis.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Subordo III. *CARDUACEÆ*.—Sect. III. *Vernoniaceæ*.

AMPHEREPHIS. *Involucrum* hemisphæricum, bracteatum, polyphyllum, imbricatum. *Receptaculum* planum, nudum. *Flosculi* crebri, omnes tubulosi, hermaphroditi. *Akenia* cylindracea, sulcato-costata, nuda. *Pappus* pilosus, caducus; pilis complanatis.—Fruticuli ramosissimi, ramis foliisque alternis, serratis. Floribus terminalibus, solitariis, pedunculatis, purpureis. *Kth. synops.* 2. p. 368.

A. intermedia, foliis oblongo-ovatis serratis basi attenuatis, foliolis involucri spinoso-aristatis.

Ampherephhis intermedia. *Pl. sel. hort. ber. f.* 5. *Link enum.* 2. p. 309.

Swt. hort. brit. p. 219.

Stem much branched, suffrutescent at the base: *branches* alternate, clothed with a short pubescence, and longer unequal hairs intermixed. *Leaves* alternate, oblongly ovate, acute, attenuated towards the base, and winged down the petiole, unequally serrate, the teeth large and sharpish, slightly pubescent; underneath pennately nerved, the nerves strong and branching near the points: upper side furrowed. *Flowers* terminal, of a bluish purple. *Peduncle* short, pubescent. *Capitulum* surrounded at the base by several leafy bractes, which are unequal in size, the inner ones smallest. *Involucrum* hemispherical, composed of numerous small leaflets, in several series, closely imbricate, lower ones ovate, terminated by a sharp spiny rigid point, the upper ones oblong, terminated by a thin membranaceous point. *Receptacle* flat, naked. *Florets* tubular; the tube very slender at the base, widening a little upwards; the limb deeply 5-cleft. *Stamens* 5, the *anthers* united into a tube, naked at the base: *filaments* distinct. *Style* smooth

at the base, but pubescent near the stigma. *Stigma* bifid, the points reflexed or revolute. *Seeds* cylindrical, furrowed or ribbed, terminated with a pappus of flat, chaff-like, deciduous hairs.

This pretty plant is a native of Brazil, and requires the treatment of the half hardy annuals, the seeds to be sown early in Spring, either on a hot-bed made on purpose for rather tender annuals, or it may be raised in pots in the Hot-house or Greenhouse, or in frames, and must then be planted out, in a sheltered situation of the Flower-garden, about the middle of May, that it may attain strength to flower fine in Autumn. It will probably survive several years, if kept in the Stove through the Winter, and may then be increased by cuttings.

Our drawing was made in September last, from a plant, about a foot high, at the Apothecaries Company's Garden at Chelsea, where it was raised by Mr. W. Anderson, from seeds received from Mr. Otto, Curator of the Royal Botanic Garden at Berlin. It thrives well in any rich light soil, and produces an abundance of seeds.



1. One of the lower leaflets of the Involucrum, showing the spine at the point. 2. One of the inner ones, with a membranaceous point. 3. Capitulum split through the middle, to show the naked receptacle. 4. One of the Florets, with the seed at its base. 5. The same split open, showing the Stamens. 6. The same divested of the Stamens, to show the nerves. 7. Anthers connected, with the filaments distinct. 8. Seed, showing the ribbed surface.



E. d. macul. - Del. *Publ. by A. Brown, Nov. 1927*

Walden, N. H.

ARGEMONE grandiflora.

Large-flowered Argemone.

Natural Order. PAPAVERACEÆ. *DC. syst. 2. p. 67.*

ARGEMONE. *Sepala* 2-3, concava, mucrone superata, pilis aculeiformibus aspera, aut lævia. *Petala* 4-6. *Stamina* numerosa. *Ovarium* ovatum; stigmatibus 4-7 radiantibus persistentibus concavis liberis (nec super discum sessilibus) coronatum. *Capsula* ovata, 1-locularis, valvulis apice dehiscens, placentibus linearibus. *Semina* sphærica, scrobiculata.—*Herbæ annuæ, succo flavescente donata, in caule foliis et calyce pilis rigidis subaculeata, aut lævia.* Pedunculi axillares solitarii, aut terminales paniculati, semper erecti nec ante anthesin inflexo cernui. Flores flavi aut albi. *DC. syst. 2. p. 85, parum mutatis.*

A. grandiflora, foliis sinuatis lævibus dentato-spinulosis; nervis inermibus, floribus paniculatis terminalibus polyandris, calycibus lævibus, capsula obtuse quadrangula subinermi.

Annual. *Stem* branching, smooth, or a little prickly at the base, spotted, and the branches tinged with purple, between 3 and 4 feet high. *Leaves* sessile, sinuate or nearly pinnatifid, smooth, the nerves and veins not spiny: *lower ones* very similar to *Acanthus mollis*, above a foot long, and about half a foot broad, the segments oblong, distinctly and horizontally spreading, sinuately toothed, the teeth and points terminated with a weak spine: *stem ones* smaller and less divided, very slightly glaucous, the segments more acute, nerves purplish. *Flowers* very large, above 4 inches across when expanded, of a pure white, in terminal panicles, forked at every division of the stem, the flowers in pairs. *Peduncles* short, smooth. *Calyx* of 3 sepals, which are smooth, ovate, convex, and terminated by a sharp horn like point, deciduous, dropping off as soon as the flower expands. *Petals* 6, in our specimens, very broad and much imbricate, narrow at the base, rounded at the margins, which

are slightly uneven or undulate, strongly veined with numerous veins from the base, which branch upwards. *Stamens* very numerous, crowded, surrounding the ovarium : *filaments* smooth, the inner ones double the length of the outer ones : *pollen* golden yellow. *Capsule* 4-furrowed, bluntly 4-angular, glaucous, thickest in the middle and tapering to both ends, bearing one to three setæ on each angle, or sometimes none. *Stigmas* 4, spreading, pitted, the pits pale blue, and the margins of a velvety purple.

For the opportunity afforded us of giving a figure of this grand plant, we are obliged to the kindness of Robert Barclay, Esq. of Bury Hill, in whose superb collection it was raised this Spring, from seeds received from Mexico. Mr. D. Cameron informs us that the seeds were sown on heat in Spring, and the plants were transplanted into the open ground, where they have attained the height of from three to four feet, and have every appearance of being annual; the flowers are larger than *A. albiflora*, and are produced in greater abundance, the capsules are much smaller, and the plants altogether a great deal smoother, one of the plants only having a few prickles at the base. It is certainly one of the grandest annuals that has been introduced for some time, and no garden where there is room ought to be without it; but of course it will not be common for some time, as Mr. Cameron informs us that it does not seed freely, which is rather surprising, as it bears such an abundance of stamens, which are well supplied with pollen, and the plants continuing in full bloom from the end of July to the middle of October.



1. The 3 Sepals in different views. 2. Portion of the Stamens. 3. Ovary, terminated by the Stigmas. 4. Capsule farther advanced, the Stigmas nearly withered up.



E. D. Smith del.

Pub. by E. Atme. Nov. 1817

Walden's H.

CARAGANA frutescens.

Shrubby Caragana.

Natural Order. LEGUMINOSÆ. *DC. prod. 2. p. 268.*

Subordo I. PAPILIONACEÆ.—*Tribus* II. LOTÆÆ. *Supra fol. 159.*

Subtribus IV. GALEGEÆ. *Legumen* 1-loculare. *Stamina* diadelpa, rariùs monadelpa. *Caulès* herbacei fruticosi aut arborei. *Folia* primordialia aut alterna aut opposita disparia, imo simplici, altero pinnato. *DC. l. c. p. 243.*

CARAGANA. *Calyx* breviter tubulosus 5-dentatus. *Corolla* obtusa recta alis vexilloque longitudine subæqualis. *Stamina* diadelpa (9 et 1). *Stylus* glaber. *Stigma* terminale truncatum. *Legumen* sessile, junius compressum, demùm subcylindricum, polyspermum stylo mucronatum. *Semina* subglobosa.—*Arbores fruticesve Sibiricæ aut Orientales.* *Folia abruptè pinnata, foliolis mucronatis petiolo apice setoso aut spinescente.* *Pediculi axillares uniflori sæpiùs fasciculati.* *Flores flavi aut in solâ C. jubatâ albi subrubentes.* *Stipulæ sæpiùs spinescentes.* *DC. prodr. 2. p. 268.*

C. frutescens, foliolis bijugis ad apicem petioli approximatis obovato-cuneatis glabris, stipulis membranaceis, petiolo apice brevi spinescente, pedunculis solitariis calyce duplo longioribus, leguminibus glabris.

Caragana frutescens. *DC. prodr. 2. p. 268. Pers. syn. 2. p. 312. Swt. hort. brit. p. 125.*

Robinia frutescens. *Linn. spec. 1044. Pall. fl. ross. t. 43. Willden. spec. 4. p. 325. Schmidt arb. 1. p. 34. t. 34. Hort. Kew. ed. 2. v. 4. p. 325. Spreng. syst. 3. p. 245. Lam. dict. 1. p. 616.*

A handsome bushy shrub: *branches* spreading, angular, smooth. *Leaves* smooth, pinnate, with 2 pair of leaflets, which are very close to each other, at the point of the petiole: *leaflets* obovate or cuneate, tapering to the base, mucronate, pinnately nerved, and reticulately veined, of a pale green colour. *Petioles* channelled on the upper side, and convex on the lower, terminated in a short slender spine. *Stipules* lanceolate, acute, slightly fringed. *Flowers* solitary, or sometimes in pairs, produced in the abortive shoots

of the last year, of a bright yellow colour. *Peduncles* long and slender, jointed, smooth. *Calyx* flattened, tubular, 5-toothed, striated with branching veins, smooth; teeth acute, the two upper ones rather shortest. *Vexillum* large, spreading, slightly emarginate, keeled on the outer side, and channelled within. *Wings* spathulate, about the length of the vexillum and keel, eared on one side at the base, and producing a long slender unguis on the other. *Keel* flat, two eared, also slenderly unguiculate. *Stamens* 10, diadelphous, 9 joined in a long tube, but distinct at the points, ascending, the other distinct to the base, and shorter. *Ovarium* long, flat, smooth, and glossy. *Style* smooth, ascending. *Stigma* a simple blunt point.

The specimens from which our drawing was made, was communicated to us by A. B. Lambert, Esq. in whose garden, at Boyton, they flowered in May last. It makes a handsome plant for the Shrubbery, and is quite hardy, being a native of Siberia; and though it has been cultivated in our gardens ever since the year 1752, it still continues scarce, as do the other species of this genus, owing principally to their being so little known; the generality of Gardeners, not being sufficiently acquainted with plants, particularly hardy shrubs, to be enabled to select a pleasing variety, but fill their Shrubberies with a great number of common things, of very few sorts, many of which are altogether useless, instead of selecting a pleasing variety, which would scarcely cost more, and would require no more care or trouble in cultivation.

The present species thrives well in the common garden soil, and may be increased by seeds or cuttings, or by grafting on the common *C. arborescens*; if from cuttings, they should be planted the latter end of August, or beginning of September, in a shady situation, and will require to be watered occasionally if the weather prove dry.



1. Calyx. 2. Vexillum. 3. The two wings. 4. The keel spread open. 5. The distinct Stamen. 6. The other 9 connected in a tube, but distinct at the points, the tube laid open. 7. The smooth Ovarium, terminated by the Style.

*Trifolium* Del.

Pub. by R. J. & Co. New York.

Trifolium Del.

ALSTRÆMERIA hirtella.

Hairy-leaved Alstræmeria.

Natural Order. AMARYLLIDÆE. *Brown prodr. p. 296.*

ALSTRÆMERIA. Perianthium superum, petaloideum subcampanulatum, sexpartitum, irregulare; laciniis duabus interioribus basi tubuloso-convolutis. Stamina 6, laciniis inserta, demum declinata. Stigma trifidum. Capsula trilocularis; loculis polyspermis.—Caulis erectus, scandens aut volubilis, foliatus. Flores umbellati. *Kth. synops. 1. p. 288.*

A. hirtella, caule volubili glabro, foliis ovato-lanceolatis acuminatis multinerviis supra in venis hirtis, umbellis multifloris, pedicellis 2-3-floris bracteatis laxis, perianthii laciniis exterioribus paulo brevioribus.

Alstræmeria hirtella. *Humb. Bonpl. et Kunth. nov. gen. pl. 1. p. 284.*

Kth. synops. 1. p. 289. Spreng. syst. 2. p. 81. Swt. hort. brit. p. 409.

Roots perennial, tuberous, resembling small potatoes. *Stems* several from the same plant, simple, twining, in our plant four feet and a half in height, smooth and glossy, more or less tinged with purple, a little compressed, or slightly angular, the obsolete angles proceeding from the footstalks of the leaves, being very slightly decurrent down the stem. *Leaves* alternate, shortly petiolate, ovately lanceolate, taper-pointed, longitudinally many nerved, of a thin membranaceous texture, resupinate, the footstalk being twisted, so that the upper part of the leaf is downwards, the nerves thickly clothed with numerous long twisted white hairs, so as to give the appearance of being villous, between the nerves striated; the other side smooth, and slightly glaucous. *Petioles* short, flat, and thin, tinged with dark purple, twisted. *Umbel* terminal, many-flowered. *Involucre* of 6 or 7 leaf-like unequal leaflets, some double the size of the others, all petiolate. *Peduncles* 2 or 3-flowered, bracteate, loosely spreading, angular and furrowed,

smooth, dark purple. *Bractes* sessile, ovate, acute, concave. *Pedicles* triangular, sulcate, clothed with a few short inconspicuous hairs on the upper part, as is also the ovarium. *Perianthium* petal-like, connivent, but spreading at the mouth, deeply 6-parted: the three outer segments lanceolately spathulate, acute, concave, veined, keeled at the back, the keel and point clothed with short rough hairs, outside of a pale orange-colour, tinged with red, green near the point, inside rather paler: inner segments a little longer, convolute, and tubular from the middle to the base, inclosing the honey, the points spreading flat, broadly wedge-shaped and irregular, also strongly keeled at the back, which is of a green colour; inside green, elegantly spotted and striped with dark purple. *Stamens* 6, inserted in the base of the perianthium: *filaments* straight at first, afterwards declining, very rough, being clothed with a short gland-like pubescence: *pollen* brown. *Ovarium* below the perianthium, 6-angular, slightly pubescent. *Style* short, erect, about half the length of the Stamens, clothed with the same gland-like pubescence. *Stigma* trifid, the laciniae at first connivent, afterwards spreading. *Capsule* very large, triangular, narrow at the base, and broad at the end, 3-celled, and many seeded. *Seeds* about the size of small peas.

This handsome plant is a native of Mexico, and we believe has now flowered with us for the first time in this country; it is quite hardy, having stood three Winters in our garden by the side of a wall in a southern aspect, without protection; the seed from which our plant was produced, was given us by Mrs. Manners Sutton, the Archbishop of Canterbury's Lady, and was sown at once in the open border; it first showed flower last Autumn, but it came too late, so that it did not expand; this Summer it began flowering the beginning of August, and continued to produce different flowering shoots until the middle of October, and is ripening abundance of seeds: it is planted about 6 inches deep in a light sandy soil.



1. The three outer leaflets of the Perianthium. 2. The three inner ditto, the Stamens inserted in their base. 3. The other three Stamens, with the upper part of the Perianthium taken from them, two of them burst, showing the pollen. 4. Ovarium. 5. Style, and trifid Stigma. 6. Filament removed from the anther, to show its slender point.



L. P. Sm. & Co. Ed.

Pub. by E. Ferris, Jan. 1877

Widdell del. Sc.

GASTROCARPHA runcinata.

Turnep-leaved Gastrocarpha.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Subordo II. LABIATIFLORE. *DC. in Ann. Mus.* 19. p. 63.

GASTROCARPHA. *Involucrum* 5-phyllum. *Receptaculum* paleatum: *paleis* difformibus; *exterioribus* cucullatis, basi gibbosâ, apice truncatis cum mucronulo flosculum quasi involucello proprio obvallantibus. *Flosculi* hermaphroditi, bilabiati, æquales. *Pappus* paleaceus, brevissimus, polyphyllus. *D. Don Mss.*

Descr. *Involucrum* 5-phyllum (nunc 6-phyllum): *foliolis* ovatis mucronatis, æqualibus. *Receptaculum* paleatum: *paleæ* difformes; *exteriore* 8, periphæricæ, simplici ordine digestæ, foliaceæ, dilatatae, cucullatae, marginibus ciliatis, ferè collapsis, flosculas marginales sigillatim quasi involucello proprio, includentes, apice truncatae, mucronuloque instructæ, extus basi gibbosâ, reticulatim varicosæ; ceteræ interiores, lineari-lanceolatae, scariosæ, canaliculatae, apice acuminato simplici, v. bi-aut tricuspidato. *Flosculi omnes* hermaphroditi, bilabiati, subæquales (periphericis paulo majoribus) extus pilosinseculi; *labio exteriore* ligulato, tridenticulato, patulo; *interiore* multo minore, profunde bipartito, revoluto; *laciniis* linearibus, acutis: *tubo* limbo brevior, apice paululùm dilatato. *Filamenta* capillaria, teretia, glabra, elastica, articulo manifesto. *Antheræ* coalitæ, flavæ; appendiculâ lineari-lanceolatâ, acutâ, albâ, antheræ ipsius longitudine terminatæ, basi longè bisetæ: *setis* simplicibus, attenuatis. *Stylus* filiformis, lævis, basi bulbosus. *Stigma* bipartitum: *lobis* linearibus, compressis, extus bisulcatis, apice truncato, papilloso-hispidulo, parùm dilatato. *Achenia* difformia; *marginatia* obovata, dorso gibbosa, lævia; *disci* pentagona, minute papillosa. *Pappus* uniformis, paleaceus, brevissimus, polyphyllus: *foliolis* lanceolatis, mucronatis, ciliatis, rigidis, simplici serie contiguis, persistentibus, basi solutis.—Herba (*Chilensis*) erecta, ramosa, virens, copiosè glanduloso-villosa, tempore florendi formosa, odorem moscho similem redolens; radice fibrosâ, annuâ. Caulis teres, flexuosus, spithamæus, v. pedalis; in hortis tamen sæpè 5 pedes attingens. Folia alterna, profunde runcinato-pinnatifida, suprâ opaca, subtùs lucida, bi-v. triplicaria: in hortis sæpè spithamæa v. pedalia; caulinis superioribus basi auriculatâ amplexicaulibus; segmentis lanceolatis, mucronatis, undulatis, lobatis, acutèque dentatis. Flores diffusè paniculati, pedicellati. *Involucrum* foliaceum, virens, hirtellum. *Flosculi* plures (12-16) singulo involucro, nivei. *D. Don Mss.*

Gastrocarpha runcinata. *D. Don Mss.*

“The *Labiatifloræ* constitute an interesting group, allied on one hand to the *Cichoraceæ*, and on the other to

the *Carduaceæ*; and although it may be difficult to define the precise limits of these three several families, yet of the propriety of retaining them distinct, there can, I think, be no question. The curious plant, above described, is an important addition to the order, forming, as it does, the type of a new genus, connecting the compound capitulum of *POLYACHYRUS* with the simple one of *LEUCERIA*; to the latter genus the *Trixis senecioides* of Dr. Hooker (Ex. Fl. t. 101) must be referred."

"I had already defined the character of *GASTROCARPHA*, in the Lambertian Herbarium, from specimens collected by Mr. Caldeleugh in Chili, when an opportunity fortunately occurred of improving the description, by an examination of living samples, the plants having produced their flowers abundantly this Autumn, in the valuable collection of Alexander Baring, Esq. at the Grange, Hampshire, where they were raised from seed last Spring, and where, under the active superintendence of our intelligent friend, Mr. M'Arthur, a great number of the rarest and most interesting plants are successfully cultivated. The genus is intimately allied to *POLYACHYRUS* of our learned friend, Don Mariano Lagasca, but is readily distinguished from that genus by its simple capitula, by the equality of its florets, and finally by its uniform, paleaceous seed crown. The whole plant has a strong musky smell."

For the above account of the present subject, we are obliged to the kindness of Mr. D. Don: it is a handsome strong growing annual plant, the seed of which should be sown on a little heat early in Spring, and from thence be planted in the borders of the Flower Garden. The generic name is intended to mark the peculiar structure of the marginal paleæ of the receptacle, and is derived from γαστήρ, a belly, and κάρφος, chaff.



1. Involucre. 2. Receptacle, showing the chaff in the centre, and one of the inflated paleæ on one side, the others taken off to show the chaff. 3. One of the paleæ, with the two-lipped Floret inserted in it, the inner lip spread out. 4. Floret, with the seed at its base, seated on a pedicle, radiately crowned with short paleæ. 5. The 5 Stamens, the anthers united into a tube, each with two long setæ at the base, the filaments distinct. 6. Seed, terminated by the Style and Stigma. 7. Seed crowned with short chaff, magnified.



L. P. Johnston

Det. by R. H. S. D. 1817

Wadsworth

CHELONE rosea.*Rose-coloured Chelone.**Natural Order.* SCROPHULARINÆ. *Kth. synops.* 2. p. 110.

Tribus II. Stamina 4 antherifera.

CHELONE. Supra fol. 120.Sect. II. *PENTSTEMON.* Filamento sterili superne barbato.

C. rosea, caule herbaceo glabro, foliis lanceolatis acutis argute serrulatis sessilibus glabris: superioribus latioribus, pedunculis axillaribus subtrifloris, corollis parvis subinflatis, labio inferiore dense barbato: laciniis limbi brevissimis, filamento sterili superne barbato.

Chelone rosea. *Cervantes Mss. Swt. hort. brit.* p. 305.

Perennial, herbaceous, or slightly suffrutescent at the base, much branched: *branches* erect or slightly flexuose, smooth and glossy, and somewhat viscous. *Leaves* rather crowded, opposite, sessile, smooth and glossy, sharply serrated, the points of the teeth a little bent inwards: lower ones narrowly lanceolate, acute; the upper ones near the flowers broader, cordate at the base, and clasping the stem, more taper-pointed. *Flowers* of a bright purplish red, about half the size of *C. campanulata*, in a terminal paniculated raceme. *Peduncles* cylindrical, glossy, viscous, and more or less clothed with glandular hairs, the lower ones sometimes 4 to 6-flowered, the greater part of the others three-flowered, the upper ones only 1 or 2-flowered. *Bractes* lanceolate, acute, entire, covered with glandular hairs, and fringed. *Pedicles* longer than the bractes, of a glossy purple, viscous and glandularly hairy. *Calyx* 5-parted, the segments lanceolate, acute, tipped with purple, glandularly hairy and fringed, spreading. *Corolla* tubular at the base, slightly inflated upwards, keeled at the back, thickly clothed with small hairs, that are tipped with minute glands: limb 2-lipped, the upper lip very short, slightly two-lobed, and naked inside: lower lip longer, trifid, spreading, densely bearded inside, and striped down the tube. *Stamens* 5, inserted in the tube near the base, four fertile and one sterile, two of the fertile ones rather longer than the other two, the two shortest much dilated to the base, the

two longer very slightly so, but rugose: *anthers* two-lobed, cleft above half way up from the base: *pollen* white: *barren filament* straight, slender and smooth downwards, dilated and densely bearded at the point, and a little below, on the upper side. *Ovarium* pyramidal, smooth. *Style* slender, smooth, about the length of the shortest stamens. *Stigma* a simple blunt point.

Our drawing of this handsome species was made in October last, at the Nursery of Mr. Tate, of Sloane-street, Chelsea, who raised it from seeds given him by G. Ackerman, Esq.; at that time several plants of it were in fine bloom in the open borders, along with several other curious plants from Mexico, that were raised from seeds by him at the same time. We have frequently seen packets of seeds of it from Mexico, marked *C. rosea* of Cervantes, whose name we have adopted; we do not know that it is in any other collection besides Mr. Tate's at present, though we have seen it raised in others, but for want of care they were soon lost when in a young state. It is certainly a very beautiful plant when covered with flowers, and will attain the height of two feet or more, when grown in a rich light soil, but it will probably require a little covering in very severe weather, like *C. campanulata*, either with a mat or a little fern or straw, but it should be always exposed in mild weather; where there are frames to spare, a few plants might be kept in them in pots, to be turned in the borders in Spring; the common garden soil suits them very well; and young cuttings, planted under hand-glasses in the open air, will soon strike root. It may also be raised from seeds, which we see are ripening on Mr. Tate's plants.

We agree with Kunth and Sprengel in uniting PENTSTEMON with CHELONE, as the characters that have been given are certainly not sufficient to constitute distinct genera; and should it be hereafter found necessary to divide them, several of those with smooth barren stamens must be referred to PENTSTEMON, and CHELONE must be limited to *C. glabra*, *C. obliqua*, and *C. Lyoni*.



1. One of the lower leaves. 2. Calyx. 3. Corolla spread open, showing the inside, the lower lip densely bearded. 4. The four fertile Stamens, and one producing no anthers, but dilated and bearded at the point, all inserted in the base of the tube. 5. Ovarium, terminated by the Style and simple blunt Stigma.



Penstemon sp.

Penstemon sp. (1887)

Wardell L.

SALPIGLOSSIS straminea.

Straw-coloured Salpiglossis.

Natural Order. SOLANÆE. *Brown prodr.* 1. p. 443.

Sect. II. Corolla non plicata, regularis. Stamina didynama. Embryo leviter arcuatus. Pericarpium capsulare v. baccatum.

SALPIGLOSSIS. *Calyx* 5-angularis, 5-fidus. *Corolla* infundibuliformis, limbo 5-lobo. *Filamentum* quintum sterili inter stamina longiora. *Stylus* apice linguæformis. *Stigma* truncatum, transversum. *Capsula* ovata, 2-locularis, bivalvis: *valvis* bipartibilibus. *Dissepimentum* contrarium, utrinque placentiferum. *Semina* numerosissima, erecta, angulata, compressiuscula, truncata, extus punctis plurimis elevatis scabra: *testa* duplex; exterior crassiuscula crustacea; interior tenuissime membranacea albumini adnata: *albumen* copiosum, carnosum. *Embryo* teres, curvatus, læteus. *Cotyledones* breves, ovales, obtusæ, hinc planæ, indè convexæ. *Radicula* cylindrica, obtusissima, cotyledonibus duplò longior centripeta. *D. Don Mss.*

S. straminea, undique piloso, foliis inferioribus petiolatis lanceolatis sinuatis: superioribus subsessilibus linearibus integerrimis, floribus paniculato-racemosis.

Salpiglossis straminea. *Hooker. exot. flor.* t. 229.

Herbaceous. *Stems* erect, branched; *branches* densely clothed with short viscous hairs. *Leaves* very variable, hairy on both sides and fringed, the hairs glandular; those at the root broadly lanceolate or oblong, bluntish, more or less sinuate, the lobes also bluntish, and sometimes slightly toothed: lower stem-ones narrower, lanceolate, also more or less sinuate: the upper ones nearly sessile, linear, and entire. *Petioles* slightly winged. *Racemes* paniced. *Flowers* rather distant, inodorous, sometimes on long peduncles, and sometimes nearly sessile. *Peduncles* terminal and lateral, one-flowered, thickly clothed with viscous glandular hairs, as is the calyx, and the outside of the corolla. *Calyx* 5-angular, 5-cleft, the angles acute; segments nearly equal, or the two upper ones rather longest, keeled, acute. *Corolla* funnel-form, cream-coloured, the tube slender towards the

base, and inflated upwards, strongly veined with numerous longitudinal blue veins, which are pennately branched, inside orange-coloured; smooth inside, and hairy without: limb 5-lobed, spreading, the lobes deeply emarginate or 2-lobed, rugose from the branching veins. *Stamens* 5, inserted in the tube, four fertile and one sterile, two of the fertile ones rather longer than the other two, the barren one shorter than either, and inserted between the two longest: *filaments* clothed with a few loose weak hairs towards the base, the upper part smooth, and of a blue colour: *anthers* large, two-lobed, attached to the filaments by the back: the barren one very small, and devoid of pollen: *pollen* orange-coloured. *Ovarium* smooth, pyramidal. *Style* smooth, slender at the base, and thickening upwards, the upper part flat and ligulate. *Stigma* transverse, truncate, channelled through the centre.

The present genus has been referred to *BIGNONIACEÆ* by Persoon, Sprengel, and also Dr. Hooker in his *Exotic Flora*, from which order it is certainly very distinct, and appears to be an intermediate genus between the two tribes of *SOLANEÆ*, being nearly related to *Petunia* on one hand, and to *Anthocercis* on the other.

Our drawing was made from fine specimens, kindly sent to us from the superb collection of Mrs. Marryat at Wimbledon, where it was raised from seed received from Valparaiso last Spring, and flowered abundantly in the open border of the Flower Garden the latter end of Summer and Autumn, growing to the height of 18 inches, or thereabouts; it has every appearance of being perennial; but if left in the open border all the Winter, it will be proper to cover it with a mat or some litter in severe frosty weather, and to leave it exposed when the weather is mild; it strikes readily from cuttings, so that young plants can be preserved in Frames or in the Greenhouse through the Winter, and from thence be turned into the open ground in Spring; they will by that means flower much earlier, and will be more likely to perfect seeds: the seeds should be sown early in Spring on a gentle hot-bed, or in the Greenhouse, and from thence be planted in a warm border of the Flower Garden.

1. Calyx. 2. Tube of the Corolla spread open, to show the insertion of the Stamens. 3. Ovarium, terminated by the Style, the upper part of which is flattened, and the transverse Stigma.



L. D. Smith Del.

*Rosa b. L. (var. *Derby*)*

Waddell Sc.

PHLOX reflexa.*Reflexed-leaved Lychnidea.*

Natural Order. POLEMONIACEÆ. *D. Don. obs. on Polem. p. 4.*
PHLOX. Supra fol. 29 et 190.

P. reflexa, caule pubescente scabro maculato, foliis reflexis glabris supra nitidis: inferioribus angusto-lanceolatis: superioribus cordatis acutis, floribus congesto-paniculatis: ramulis multifloris, dentibus calycinis lanceolatis mucronatis patentibus, tubo corollæ glabro curvato; limbi laciniis rotundato-obovatis basi imbricatis.
Phlox reflexa. Hortulanorum.

Perennial. *Stems* erect, from two to three feet high, bluntly quadrangular, clothed with a short rough pubescence, of a pale green, spotted with dark purple. *Leaves* opposite, nearly sessile, very much reflexed, very smooth, and of a dark glossy green on the upper side, and pale underneath, the nerves also smooth, but the margins a little roughish: lower ones narrowly or linearly lanceolate, acute; the upper ones short, broadly cordate, and taper-pointed: upper ones sometimes opposite, and sometimes alternate. *Flowers* in a close crowded panicle, very sweet-scented, dark purple; the flowering branches many flowered, and more or less divided. *Bractes* lanceolate, mucronate, rough at the margins. *Pedicles* short, slender, roughly pubescent. *Calyx* shortly tubular, smooth, 5-angular, 5-toothed, more or less tinged with purple: teeth lanceolate, with membranaceous margins, mucronate, keeled. *Corolla* smooth and glossy: tube dark purple, curved, striate, smooth: limb 5-cleft, spreading: the laciniæ roundly obovate, imbricate at the base, the points distinct, dark purple, lighter at the base, where each is marked with a dark purple spot, which gives a radiate appearance. *Stamens* 5, inserted in different

parts of the tube, two of them near the mouth, but scarcely exserted: *pollen* golden yellow. *Ovarium* smooth and glossy. *Style* smooth, slender, included in the tube. *Stigma* trifid, spreading.

Our drawing of this very handsome plant was made from fine specimens kindly sent to us by Robert Barclay, Esq. of Bury-hill, under the name that we have adopted; we also received it by the same name from Mr. Wheeler, Nurseryman, of Warminster; we are inclined to believe it to be of hybrid origin, and believe its parents to be *P. suffruticosa*, and *P. pyramidalis*, as it has the dark colour of the flowers of the former, and its leaves are also similar; but its habit and rough spotted stalk is that of the latter; its flowers are very sweet-scented, which still makes it the more desirable; it is certainly deserving a place in every collection, as it thrives well in the open borders of the Flower Garden, where it will attain the height of from two to three feet; in Mr. Barclay's garden, that and the other species of Phlox are grown in peat soil, where they grow very luxuriantly, and produce very large panicles of flowers; but it will grow in any rich light soil; and young cuttings, planted under hand-glasses in Spring, will soon strike root, and will make flowering plants for the same Summer.



1. One of the lower leaves. 2. Calyx. 3. Tube of the Corolla spread open, to show the insertion of the Stamens. 4. Ovarium, terminated by the smooth Style and trifid Stigma.



ED Smith Del

Publ by R Sweet Co. N.Y.

W. A. A. A.

PHLOX pyramidalis.

Pyramidal Lychnidea.

Natural Order. POLEMONIACEÆ. *D. Don obs. on Polem. p. 4.*
PHLOX. Supra folio 29, and 190.

P. pyramidalis, caule erecto scabro maculato, foliis cordato-oblongis acuminatis glabris margine scabris, panicula fastigiata pyramidalis, corollæ laciniiis cuneato-truncatis, dentibus calycinis suberectis lanceolatis acutis.

Phlox pyramidalis. *Smith exot. bot. 2. t. 87. Pursh fl. amer. sept. 1. p. 148. Hort. Kew, ed. 2. v. 1. p. 325. Ræm. et Schult. syst. 4. p. 358. Spreng. syst. 1. p. 623.*

Stems erect, from 2 to 3 feet high, roughish, thickly clothed with a short pubescence, not much branched, but terminated with a close compact pyramidal panicle of flowers: *branches* erect, obsoletely quadrangular. *Leaves* cordate, sessile, oblong, ovate, or lanceolate, taper-pointed, smooth, edges a little roughish: lower ones opposite: upper ones sometimes alternate. *Flowers* in a close compact panicle, pyramidal on the main stem, scarcely so on the side ones. *Bractes* subulate. *Pedicles* very short, pubescent. *Calyx* 5-cleft, segments lanceolate, keeled, acute, nearly erect, or points slightly spreading, joined below by a thin membrane. *Corolla* tubular, tube nearly 3 times as long as the calyx, gradually thickening upwards: limb 5-parted, laciniaë broadly cuneate, truncate, slightly twisted, at first imbricate, afterwards becoming distinct, of a pale flesh-colour or lilac. *Stamens* 5, inserted in the tube, one just below the mouth and scarcely extending beyond it, two a little lower down, the other two still farther down, and one of those below the other: *filaments* very short, attached to the anther at its back: *anthers* sagittate, two-celled: *pollen* yellow. *Germen* green, smooth. *Style*

smooth, filiform, included in the tube. *Stigma* trifid, segments blunt, connivent.

This fine species is readily distinguished from those to which it is nearest related by its rough stem, erect growth, close pyramidal panicle, and its small flowers, which are considerably less than any other to which it is akin : it is of strong growth, and will sometimes attain the height of three or four feet, thriving well in the borders of the Flower Garden, if planted in rich light soil, where it will continue to flower for a great part of the Summer and Autumn ; but if the Summer prove hot and dry, it will need a constant supply of water, or the flowers will be poor and blighted. Young cuttings, planted under hand-glasses in Spring, strike root readily, and will flower the same season ; it may also be increased by dividing at the root.

Our drawing was made from a plant that we received from Mr. G. Wheeler, Nurseryman, Warminster, who possesses a choice collection of hardy perennial herbaceous plants, with whom they thrive remarkably well.

The present species is sometimes liable to be destroyed in very severe dry frost, if it be not a little protected, so that it is better to have a few plants of it in small pots, to be protected in frames in Winter, or to be covered by mats.



1. Calyx. 2. Tube of the Corolla split open, to show the insertion of the 5 Stamens. 3. Ovarium, terminated by the Style and trifid Stigma.



E. Bracht

Hubb. R. & S. Dec. 1827

Vaidell. Sc.

ASTER patens.

Spreading hairy-stalk'd Starwort.

Natural Order. COMPOSITE. *Adanson fam.* 2. 103.

Sect. II. CARDUACEÆ.—Div. 6. *Astereæ.* Kunth. syn. 2. p. 399.

ASTER. *Involucrum* subhemisphæricum, polyphyllum, imbricatum; foliolis inferioribus sæpius patulis. *Receptaculum* planiusculum, punctato-serobiculatum. *Flosculi* disci creberrimi, tubulosi, hermaphroditi; radii ligulati, feminei, sæpissime plures quam decem. *Pappus* pilosus, sessilis. Frutices, suffrutices aut sæpius herbæ; ramis foliisque alternis; floribus sæpissime paniculatis aut corymbosis, rarius solitariis; radiis violaceis, purpureis aut albidis. Kunth. syn. 2. p. 400.

A. patens, caule ramoso hirsuto; ramis patentibus paucifloris microphyllis, foliis radicalibus petiolatis ovatis obtusis subcrenatis; caulinis integerrimis oblongo-lanceolatis ovatisque ciliatis cordatis amplexicaulibus reticulato-venosis utrinque scabris pilosis, foliolis involucri imbricatis lanceolatis patulis.

Aster patens. Willden. sp. pl. 3. p. 2034. Pers. syn. 2. p. 444. Hort. Kew. ed. 2. v. 5. p. 56. Pursh. fl. amer. sept. 2. p. 551. Spreng. syst. 3. p. 529.

Stem suffrutescent at the base, from 18 inches to 2 feet in height, more or less branched, thickly clothed with short rigid hairs, terminated in a spreading panicle of flowers. *Leaves at the root* petiolate, ovate, obtuse, more or less notched, inclining to glaucous, not so rough as the stem ones, reticulately veined underneath, fringed with short hairs: *stem ones* entire, oblongly lanceolate or ovate, acute, clasping the stem, cordate, and rounded at the base, ciliate, reticulately veined, very rough and hairy on both sides, of a darker green than those at the root; those on the lower part of the flower stems shorter and broader in proportion, the upper ones very small and narrow. *Flower stems* slender, more or less branched, hairy, generally terminated with a single flower. *Involucrum* oblong, or between

cylindric and hemisphærical : leaflets short, imbricate, lanceolate, acute, pubescent, ciliate, their points spreading or slightly reflexed. *Receptacle* flat, honeycombed. *Rays* from 20 to 30, of a light blue inclining to purple, hairy at the back near the base, and bearing a smooth style and 2 bluntish ligulate stigmas, but no stamens. *Florets of the disk* numerous, at first yellow, afterwards changing to a brownish purple, tubular, 5-toothed, producing stamens and pistils. *Stamens* 5 : *anthers* naked at the base. *Style* exserted, smooth. *Stigmas* 2, fimbriate. *Seeds* small, pubescent, crowned with a radiate pappus of long simple hairs,

We have ascertained the present species to be *A. patens* of Pursh, by comparison with his original specimens, now in the Herbarium of A. B. Lambert, Esq. ; it is a very handsome and distinct species, and well worth cultivation in all collections, where it will flower from August to November, in the open borders of the Flower Garden, thriving well in the common garden soil ; it will also flower well in a smallish size pot, and is readily increased by dividing at the root.

Our drawing was made from fine specimens, sent us from the superb collection of Robert Barclay, Esq. of Bury-hill, who had received the plants from North America ; the radical leaves were taken from a plant growing in a pot at the Nursery of Mr. Colvill, of the King's-road, Chelsea.



1. Radical leaves. 2. Capitulum split through the middle, to show the leaflets and honey-combed Receptacle. 3. Front view of the Receptacle, divested of the Involucrum. 4. One of the Rays. 5. Floret of the disk seated on the seed. 6. The same spread open. 7. The 5 Stamens, with distinct filaments, and the anthers connected. 8. Seed, terminated by the Style and bifid Stigma.



CHELONE atropurpurea.*Dark purple Chelone.**Natural Order.* SCROPHULARINÆ. *Kth. synopsis.* 2. p. 110.

Tribus II. Stamina 4 antherifera.

CHELONE. Supra fol. 120.Sect. II. PENTSTEMON. *Filamento sterili superne barbato.*

C. atropurpurea, caule suffruticoso subflexuoso nitido superne glanduloso-piloso, foliis sessilibus argute serrulatis glabris : inferioribus lanceolatis utrinque attenuatis ; superioribus ovatis acuminatis amplexicaulibus, pedunculis axillaribus subtrifloris, calycibus corollisque glanduloso-pubescentibus, corollis levissime barbatis, filamento sterili superne barbato.

Root perennial. *Stem* suffruticose at the base, more or less flexuose, from 3 to 5 feet in height, branching, smooth and glossy ; the lower part of a pale green colour ; becoming purple upwards, and of a glossy appearance as if varnished, slightly viscous, and clothed with short hairs that are tipped with small glands. *Leaves* sessile, smooth and glossy, sharply toothed with small horny teeth, the points of which curve inwards : lower leaves and those on the small branches narrowly lanceolate, tapering to both ends ; others broadly lanceolate, and broad at the base ; the upper ones ovate, clasping the stem, and tapering to a long slender point, slightly pubescent. *Flowers* dark purple, in a long terminal paniced raceme. *Peduncles* axillary, generally 3-flowered, the upper ones only two-flowered, glossy. *Bractes* lanceolate, acute, glossy, slightly pubescent and fringed. *Pedicles* glossy, clothed with short glandular hairs. *Calyx* 5-parted, glandularly pubescent, the segments nearly equal, lanceolate, acute, purple, the points spreading, slightly viscous. *Corolla* tubular, narrow towards the base, the upper part inflated, and campanulate, thickly clothed with glandular hairs on the outside,

2-lipped, gaping at the mouth, inside striped, smooth; upper lip 2-lobed; lower one 3-lobed, very slightly bearded: lobes ovate, rounded. *Stamens* 5, inserted in the tube at the base, four producing anthers, and one sterile; two of the fertile ones longer than the other two: *filaments* attached to the back of the anthers, smooth, the two longest equal in size throughout, the shorter ones dilated very much at the base, between those two is the sterile one, dilated at the point, and bearded on the upper side about one third its length, very densely so near the point. *Ovary* pyramidal, smooth and glossy. *Style* smooth, about the length of the stamens. *Stigma* a simple blunt point.

Our drawing of this grand plant was made this Summer from fine specimens kindly given to us by Messrs. Young, Nurserymen, at Epsom, who possess a valuable collection of fine herbaceous plants, which they cultivate with great success; since that we have also received specimens of it from R. Barclay, Esq. of Bury-hill. It is a native of Mexico, as we have ascertained by fine specimens in the Herbarium of A. B. Lambert, Esq. in whose garden at Boyton they were raised from Mexican seeds. It is nearest related to *C. campanulata*, but is readily distinguished by its broad upper leaves; it is also a stronger growing plant, and its flowers are of a dark purple, and it is altogether a more desirable plant; when grown in strong ground, it will sometimes attain the height of five feet, and continues to bloom from July to October, thriving best in a rich light soil, but should be protected a little in severe frosty weather; young cuttings planted under hand-glasses, or in a shady border without glass, will strike root readily, or it may be increased by seeds.



1. Calyx. 2. Corolla spread open to show the inside, and the few hairs on the lower lip. 3. The four fertile Stamens inserted in the base of the tube, the two shortest filaments much dilated at the base. 4. Sterile filament much bearded at the point. 5. The conical Ovary, terminated by the Style and simple blunt Stigma. 6. One of the lower leaves.



LATHYRUS amphykarpos.

Subterranean Lathyrus, or Earth-pea.

Natural Order. LEGUMINOSÆ. *DC. prodr.* 2. p. 93.

Subordo I. PAPILIONACEÆ.—Tribus IV. VICIÆ. *Supra fol.* 194.

LATHYRUS. *Supra fol.* 194.

Sect. I. EULATHYRUS. Vexillum basi edentatum. Foliola opposita vel abortu nulla. Petiolus angustè alatus.

§. 2. Annuus, pedunculis 1-3-floris. — ** *Foliis unijugis.*

L. amphykarpos, caulibus alatis diffusis, foliolis lanceolatis cirrhis simplicibus, stipulis semisagittatis unidentatis petiolo longioribus, pedunculis unifloris folio longioribus, leguminibus caulinis subterraneisque ovatis dorso et fronte bialatis subdispermis, seminibus subcompressis.

Lathyrus amphykarpos. *Linn. spec.* 1029. *Brot. fl. lus.* 162. t. 66. *Willden. sp. pl.* 3. p. 1078. *Pers. syn.* 2. p. 304. *Hort. Kew. ed.* 2. v. 4. p. 305. *DC. prodr.* 2. p. 373. *Spreng. syst.* 3. p. 261.—*Moris. hist.* 2. p. 61. sect. 2 t. 25. f. 1.

Root annual, fibrous, some of the fibres bearing large tubercles. *Stems* numerous, much branched: *branches* spreading in all directions, smooth, 4-angular, two of the angles winged. *Leaves* smooth, bearing one pair of leaflets; the lower ones terminated by a very small leaflet: upper ones terminated by a simple tendril, which is more or less twisted: *leaflets* 3-nerved, smooth, those on the lower leaves short, nearly ovate, obtuse; on the upper ones lanceolate and acute, spreading. *Petioles* short, slightly winged, flat on the upper side, and keeled on the lower, not so long as the stipules. *Stipules* lanceolate, acute, semisagittate, with one small sharp tooth on each at the outside, taper-pointed at the base. *Peduncle* 1-flowered, generally longer than the leaf, with a short blunt bracte at the base of the pedicle. *Calyx* campanulate, 5-cleft, the laciniae lanceolate, acute, keeled, spreading; the two upper ones

broadest. *Flowers* pink, tinged with blue. *Vexillum* broadly obovate or obcordate, striated with numerous darker veins, which are more or less branched. *Wings* obovate or broadly spathulate, with a slender unguis on one side at the base, and a short blunt ear on the other. *Keel* shorter than the wings, inflated, with 2 short ears, one on each side, the unguis bifid at the base. *Stamens* 10, diadelphous, 9 joined in a tube, but distinct at the points; the other distinct. *Ovarium* smooth, containing 3 ovula. *Style* ascending, smooth about half way up, the upper part villous. *Stigma* slightly dilated. *Pod* ovate, flat, 1 to 3-seeded, two winged at the back and front, back wings broadest and undulate. *Seeds* chestnut-coloured, nearly round, slightly flattened on each side.

Our drawing of this singular plant, was made last Summer from living specimens, kindly sent to us by A. B. Lambert, Esq., in whose garden at Boyton they flowered and ripened their seeds; Mr. Lambert informs us, that the plant from which our drawing was made, was raised the preceding Autumn, and had continued to grow in the open border all through the Winter, but was protected a little in severe frost; by this management it flowered earlier, and its flowers and pods under the ground were also produced; but we believe, if sown early in Spring, it might answer nearly as well; February we should consider a very proper time to sow it; and as the plants grow they should be earthed up a little, that they may be able to produce their flowering shoots under ground. It is a native of Syria, and a very pretty annual plant, producing its flowers in succession a great part of the Summer; it only requires to be sown in the open borders of the Flower Garden, in light soil.



1. Flowers from the roots. 2. The fungus like tubercles from the roots. 3. Calyx. 4. Vexillum. 5. The two Wings. 6. Keel. 7. The 9 Stamens that are all joined below, but distinct at the points. 8. The tenth distinct one. 9. Ovarium, terminated by the villous Style, and dilated Stigma. 10. Seed pods from the roots. 11. One of those from the branch. 12. The same open, to show the three seeds.



W. & A. G. Smith del.

Pub. by R. Smith Feb. 1828.

W. & A. G. Smith del.

BIDENS striata.*Striped-flowered Bidens.**Natural Order.* COMPOSITÆ. *Adanson fam.* 2. 103.Subordo VI. *HELIANTHÆE.* Kth. synops. 2. p. 463.

BIDENS. *Involucrum* polyphyllum; foliolis duplici serie dispositis; exterioribus sæpius longioribus, alius formæ et patentibus. *Receptaculum* planum, paleaceum. *Flosculi disci* tubulosi, hermaphroditi; *radii* ligulati, neutri, rarius nulli. *Akenia* quadrangulär-compressa, 2-5-aristata; aristis persistentibus, retrorsum hamosis.—*Herbæ ramis foliisque oppositis, integris, incisis aut varie partitis.* Flores *terminales, solitarii aut corymbosi; radio sæpissime flavo, rarius albo.* Kth. synops. 2. p. 478.

Sect. II. Foliis divisis; akeniis subtetragonis.

B. striata, caule erecto ramoso, ramis pubescentibus, foliis ternatis: foliolis oblongo-ovatis acutis serratis glabris margine scabris; terminali acuminato majore, radio albido purpureo-striato, akeniis compresso-quadrangularibus 1-2-aristatis; aristis inæqualibus.

Stem erect, much branched, attaining the height of four feet; *branches* unequally 6-angular, and striate between the angles, clothed with a short pubescence, the angles thickened and purplish. *Leaves* all ternate, or very rarely a simple one near the top, petiolate: *leaflets* oblongly ovate, acute, cuneate at the base, serrate, with rough margins; smooth and glossy, and of a dark green on the upper side; underneath paler and slightly pubescent, numerously nerved, and reticulately veined: *terminal one* petiolate, taper-pointed, the point entire, generally unequal at the base, about twice as large as the side ones, and sometimes more than that: *side ones* generally with short footstalks, but sometimes sessile, also mostly unequal at the base, nearly as broad as long. *Petioles* channelled on the upper side and keeled on the lower, winged a little at the margins, and clothed with long spreading hairs. *Flowers* terminal, panicled. *Peduncles* angular, furrowed, pubescent, a little thickened at the base of the flower. *Involucrum* many-leaved, in two series, and of two different forms, but about the same length: outer series consisting of from 8 to 10 leaflets, which are linear, acute, hairy, 3-nerved, and spread-

ing, or the points a little reflexed: inner series consisting of the same number, which are broadly lanceolate, acute, membranaceous, close-pressed to the florets, but spreading at the points. *Receptacle* flat and paleaceous, the chaff narrowly linear, nearly as long as the florets. *Rays* generally 5, but sometimes 6 to 8, broad, and spreading, sterile, terminated by three shallow rounded teeth or lobes, white, but striped at the back, with several prominent purple veins. *Florets of the disk* numerous, yellow, tubular, 5-toothed, the teeth ovate, acute, spreading. *Stamens* 5, *filaments* distinct, slender: *anthers* united into a tube, black, naked at the base, but terminated by chaffy points. *Style* smooth, yellow. *Stigma* bifid, the segments linear, fimbriate, spreading. *Seed* rough, flattish, 4-angled, generally 2-aristate, one of the aristæ longer than the other; some seeds have only one arista, and others are without any.

This handsome Autumn-flowering plant is a native of Mexico, and the specimens from which our drawing was made was kindly sent to us from the superb collection of Robert Barclay, Esq. of Bury-hill: Mr. Cameron informs us that the seeds were sown on a hotbed last Spring, and afterwards planted out in the open border, where they produced a few straggling flowers through the Summer; but that the plant from which our specimens was taken, was then (the thirteenth of November) in full beauty, the plant being nearly four feet high, and bushy from the bottom, and completely covered all over with flowers and flower-buds; he thinks it likely to prove perennial if protected through the Winter; but from its appearance we should judge it to be scarcely better than an annual. We also received specimens of it from Mr. Tate, of the Sloane-street Nursery, who raised a great many plants of it from seeds sown in the open borders; but as they were not sown till late in Spring, they did not flower so strong as Mr. Barclay's. Mr. Tate received the seeds, with those of many other rare plants, from George Ackerman, Esq. of the Strand, who received them from Mexico.



1. Involucre, showing the two series of leaflets. 2. Receptacle, showing the long narrow sharp-pointed chaff. 3. One of the Rays. 4. Floret of the disk spread open. 5. The 5 Stamens, the anthers united, and the filaments distinct. 6. Seed terminated by two unequal aristæ, also the Style and bifid fimbriate Stigma.



L.D. Smith del.

Pub. by R. Sweet. 2nd ed. 1828.

Woodward Sc.

SCYPHANTHUS elegans.

Elegant Cup-Flower.

Natural Order. LOASEÆ. *Juss. ann. mus. 5. p. 21.*

SCYPHANTHUS. *Calyx* superus, profunde quinquepartitus, persistens; laciniis æqualibus. *Petala* 5, basi calycis inserta, brevissime unguiculata, concava, æqualia, adscendentia. *Squamæ* 5, ibidem insertæ, cum petalis alternantes; apice peltatæ, lobatæ, tricornæ. *Stamina* numerosa, creberrima, perigyna; decem exteriora antheris destituta horumque bina squamis opposita; reliqua longiora, disposita per fasciculos quinque, petalis oppositos. *Antheræ* biloculares, erectæ, longitudinaliter dehiscentes. *Ovarium* inferum, prismaticum, siliquæforme. *Stylus* 1, erectus, trigonus, simplex. *Capsula* prismatica siliquæformis, limbo calycis coronata, 1-locularis, polysperma, apice trivalvis. *Semina* ovalia, rugosa.

Herba volubilis; ramis retrorsum strigosis. Folia opposita, bipinnatifida: superiora pinnatifida, hispido-hirta. Flores sessili, erecti, solitarii. Petala lutea.

S. elegans, caule dichotomo volubili, foliis oppositis; inferioribus bipinnatifidis: superioribus pinnatifidis: laciniis obtusis ciliatis.

Stems forked at every joint, slender, soon becoming hard and brown, twisting round each other, or round any small branches within their reach, thickly clothed with small rigid hairs, which bend downwards, and causes a roughness to the touch. *Leaves* opposite, thickly clothed with short rigid hairs, the margins fringed: lower ones bipinnatifid, becoming smaller and less divided upwards: the upper ones simply pinnatifid: segments lanceolate, bluntish, fringed. *Flowers* yellow, sessile, solitary, cup-shaped; when the buds first appear they are terminal, but a young shoot is soon produced, generally on each side, so that when expanded, they are mostly seated in a fork between two branches. *Ovarium* resembling a pod of some cruciferous plant, many-angled and many-furrowed, thickly clothed with short rigid hairs, which bend upwards, 1-celled, many-seeded. *Calyx* seated on the ovary, deeply 5-parted, the laciniae spreading, or the points reflexed, obovately lanceolate, bluntish, tapering to the base, clothed with short stiff

hairs and fringed, persistent. *Petals* 5, inserted in the base of the calyx, ascending so as the flower to form a cup or bowl, shortly unguiculate and concave near the base, which forms a short blunt spur, terminated in a broad rounded point, or sometimes slightly emarginate, pubescent outside. *Scales* 5, petal-like and alternate with the petals, also shortly unguiculate and hollowed out like a spur near the base, peltate at the point, six-lobed, of a bright glossy purple, terminated in three horns, resembling barren filaments, with spatulate points. *Stamens* numerous: 10 *sterile ones*, flat, attenuated to the point and curved inwards, glandularly pubescent, 2 inserted in the base of each of the scales, one on each side: *fertile ones* in 5 sets, opposite to the petals, and enclosed in their hollow cavities before the anthers burst, they then spring forward and enclose the style: *anthers* two-lobed, bursting longitudinally: *pollen* straw-coloured. *Style* simple, 3-sided. *Capsule* long and slender, bursting into three valves at the point, many-seeded. *Seeds* brown, oval, rugged.

The present beautiful flowering plant is a native of Chili, and is generally considered in our collections as the *Loasa volubilis* of Jussieu; but we have examined a specimen of that plant in Mr. Lambert's Herbarium, that was received from Jussieu himself; in that the capsule is short and turbinate, and does not belong to the same genus as the present plant.

Our drawing was made from a plant in the collection of H. B. Ker, Esq. of the Regent's Park, who raised it from seeds received from the Horticultural Society, who we believe first introduced it. It may be treated as a half hardy annual, to be sown on a hotbed or in the Greenhouse, and from thence to be planted in the flower-borders, and will probably prove a perennial if covered in frosty weather, or placed in the Greenhouse.

We have derived the generic name from σκυφος, a cup or bowl, and ανθος, a flower, from the form of its flowers.

1. Calyx, with a portion of the capsule attached to it. 2. Two of the Petals, front and back view. 3. Two of the Scales that are alternate with the petals, front and side view, showing the two sterile Stamens at the base of each. 4. The two barren Stamens, with the upper part of the scale detached from them. 5. The fertile Stamens, the petals taken from them. 6. The 3-sided simple Style. 7. Capsule, terminated with the calyx, the upper part of the segments taken off. 8. Seed.



E. D. Smith

Pub. by E. Smith Feb 1870

W. H. Smith

PLATYSTYLIS cyanea.

Blue-flowered Platystylis.

Natural Order. LEGUMINOSÆ. *DC. prodr.* 2. p. 93.

Subordo I. *PAPILIONACEÆ*—*Tribus* IV. *VICIÆ*. *Supra fol.* 194.

PLATYSTYLIS. *Calyx* campanulatus, 5-fidus, lobis 2 superioribus brevioribus. *Corolla* papilionacea. *Stamina* diadelphea. *Stylus* latus spatulatus apice villosus. *Legumen* oblongum uniloculare bivalve polyspermum. *Semina* subglobosa.—*Herbæ erectæ.* *Stipulæ semisagittatæ.* *Petioli in setam brevem simplicem desinentes.* *Folia abruptè pinnata paucijuga.* *Racemi axillares pedunculati.*

P. cyanea, caule angulato basi subramoso, foliis bijugis: foliolis approximatis lanceolato-linearibus cuspidatis longitudinaliter 5-7-lineatis, stipulis semisagittatis lineari-subulatis, pedunculis elongatis paucifloris, calyce petalorum unguibus breviori.
Orobis cyaneus. *Stev. in mem. soc. cur. mosq.* 4. p. 51. *Bieb. fl. taur. suppl.* p. 464. *DC. prodr.* 2. p. 380. *Spreng. syst.* 3. p. 259.

Root perennial. *Stems* erect, about a foot high, branching at the base: *branches* smooth, angular. *Leaves* on short footstalks, bearing two pair of leaflets, the petiole terminated by a slender setiform leaf-like point, very similar to the stipules: *leaflets* near each other, straight, lanceolately linear, acute, terminated by a short mucro, smooth, of a pale green, longitudinally lined with five to seven slender lines. *Stipules* very narrow, semisagittate, broadest at the base, but terminated in a slender subulate point, scarcely so long as the petioles, which are very short and furrowed on the upper side. *Peduncle* very long, quadrangular, much longer than the leaves, smooth. *Racemes* few-flowered. *Flowers* large, of a bright purplish blue. *Pedicles* about the length of the calyx. *Calyx* campanulate, smooth, purplish: the laciniae short, about half the length of the tube: two upper ones very short, obtuse: the lower ones broadly lanceolate, acute. *Vexillum* large, obovate, notch-

ed at the point, channelled down the front, and keeled at the back, veined with numerous branching veins. *Wings* obovate, shorter than the vexillum, eared on one side with a large rugose uncinat ear, the other side producing a long slender flat unguis. *Keel* shorter than the wings, of a lighter colour, sharply keeled, acute, shortly eared. *Stamens* 10, diadelphous, 9 joined together, but distinct at the points, the other distinct its whole length. *Ovarium* flat, smooth, many-seeded. *Style* flat, broadly spatulate or dilated towards the point, villous or bearded inside, the point marginate.

Our drawing of this handsome plant was made in July last, at the garden belonging to the Apothecaries' Company at Chelsea, where it was raised from seed the year before by Mr. W. Anderson, from seeds received from Dr. Fischer. It is a native of Caucasus and Iberia, and is quite hardy, thriving well in the open borders in the common garden soil, where it ripens its seeds. We have given it as a genus distinct from *OROBUS*, on account of its broad spatulate stigma, which agrees much better with *LATHYRUS*, but is also different from that genus, from which it also differs entirely in habit, and in wanting the tendrils, the habit being precisely that of the former genus; and it may be considered an intermediate one between the two. *Orobis sessilifolius* of Dr. Hooker, in Botanical Magazine, 2796, is a nearly related species of the same genus, and probably some others, very different from the true species of *OROBUS* with a slender linear style.

The generic name is derived from *πλατυς*, broad, and *στυλις*, a style or column, from its broad style.



1. Calyx. 2. Vexillum. 3. The two Wings. 4. Keel. 5. The distinct Stamen, and the nine connected ones. 6. Ovarium, terminated by the large flat dilated spatulate Style.



J. V. Smith Del.

Pub. by E. Pease Feb. 1888.

W. H. Smith & Co.

CYPRIPEDIUM spectabile.

Showy Ladies Slipper.

Natural Order. ORCHIDÆ. *Brown prodr.* 309.

Sect. VI. DIANDRÆ. *Stamina* 2 antherifera.

CYPRIPEDIUM. *Supra fol.* 71.

C. spectabile, caule folioso, lobo styli elliptico cordato obtuso, labello perianthii foliolis obtusis longiore antice fasso.

Cypripedium spectabile. *Salisb. linn. trans. v. 1. p. 78. Willden. sp. pl. 4. p. 143. Pursh. fl. amer. sept. 2. p. 594. Hort. Kew. ed. 2. v. 5. p. 221. Lodd. bot. cab. t. 697. Spreng. syst. 3. p. 745.*

Cypripedium album. *Hort. Kew. 3. p. 303. Botan. magaz. 216. Schnevoogt ic. 2.*

Cypripedium canadense. *Mich. fl. amer. 2. p. 161.*

α incarnatum, labello incarnato. *Supra fig. B.*

β album, labello extus albo, foliis pallidioribus. *Supra fig. A.*

Perennial. *Root* tufted, producing numerous long fleshy fibres. *Stem* slightly flexuose, from 18 inches to 3 feet in height, thickly clothed with unequal spreading hairs, the points of which are reflexed. *Leaves* sessile, clasping the stem, ovate, acute, plaited, channelled on the upper side with numerous deep furrows, and striate with numerous small longitudinal lines, strongly nerved underneath, thickly clothed on both sides with short spreading hairs, the margins fringed. *Flowers* from 1 to 3, terminal, large, and very handsome. *Ovary* ribbed, densely clothed with reflexed hairs. *Perianthium* of 4 leaflets; white, and pubescent on both sides, upper and lower ones broadly ovate, obtuse, veined, spreading; side ones broadly lanceolate, and more acute, also striate, and spreading horizontally. *Labellum* very large and inflated, white, the fore-part purple or flesh-coloured, rarely altogether white as in var. *β*, the upper part split in front, and bent inwards at the mouth; inside more

or less elegantly spotted with purple, and striped near the mouth, clothed with very long spreading crooked white hairs. *Lobe of the Style* large, cordately elliptic, obtuse, more or less spotted, keeled inside : side lobes short, bluntly rounded, fleshy, each producing an anther. *Style* bent inwards. *Stigma* large, fleshy, orbicular, fimbriately crenulate.

The present beautiful white variety of this species was introduced from North America by Mr. G. Charlwood, at the same time as *C. arietinum*, and from a plant flowered by him our drawing was made last Summer. We had never before seen or heard of a white variety, so that it is a very rare plant ; the flower of the common variety, given at the bottom of the plate, was also from one of his plants, and at the same time he had in flower *C. humile*, *C. parviflorum*, and *C. pubescens*, and many other Orchideous plants ; also different species of *Sarracenia*, and other plants, that he received at the same time ; and plants of any of them may be received from him, by sending an order to 146, Drury-lane : the present species succeeds best in a light soil, consisting chiefly of decayed leaves and rotten branches of trees, and should be planted in a sheltered situation ; and we have no doubt but it would succeed well in a shady wood, under the shelter of trees, where it would most probably naturalize itself by seeding.



1. Labellum of the white variety spread open, to show the hairy inside and the red spots. 2. The large cordate lobe of the Style. 3. The two side lobes to which the two Stamens are fixed. 4. The large fleshy orbicular Stigma, front view. 5. Back view of the same.



E. J. Smith del.

Pub. by S. Moore March 1906

Walden J. C.

AMORPHA fragrans.

Fragrant Bastard Indigo.

Natural Order. LEGUMINOSÆ. DC. *prodr.* 2. p. 93.

Subordo I. PAPILIONACEÆ.—Tribus II. LOTÆÆ. DC. *prodr.* 2. p. 115.

Subtribus IV. Galegeæ. *Legumen* 1-loculare. *Stamina* diadelphea, rariùs monadelphea. *Caules* herbacei fruticosi aut arborei. *Folia* primordialia aut alterna aut opposita disparia, imò simplici, altero pinato.

AMORPHA. *Calyx* 5-dentatus obconico-campanulatus. *Corollæ* vexillum ovatum concavum, alæ et carina 0. *Stylus* filiformis rectus glaber, (aut hirsutus). *Stamina* exserta, basi imâ monadelphea. *Legumen* compressum ovatum lunulatumve 1-loculare 1-2-spermum.—*Frutices boreali Americani.* *Folia* impari-pinnata, foliolis multijugis pellucido-punctatis sæpiùs basi stipellatis. *Stipulæ* caulinae, deciduæ. *Racemi* spicati elongati sæpiùs ad apices ramorum subfasciculati. *Flores* cæruleo-violacei. DC. *prodr.* 2. p. 256.

A. fragrans, fruticosa pubescens, foliolis elliptico-oblongis utrinque obtusis mucronulatis: junioribus pubescentibus, calycibus pubescentibus pedicellatis: dentibus superioribus obtusis inferioribus acutis, stylo hirsuto.

Amorpha nana. Sims *Botan. magaz.* t. 2112, nec aliorum.

A strong upright deciduous Shrub: *branches* angular, slightly pubescent. *Leaves* pinnate, generally bearing from 6 to 8 pair of leaflets, terminated by an odd one: *leaflets* on short footstalks, oblongly elliptic or ovate, blunt at both ends, terminated by a short mucro, the terminal one broadest, when young clothed with a canescent pubescence, but nearly smooth when old. *Stipules* at the base of the leaflets and petioles setaceous. *Petioles* furrowed on the upper side and keeled on the lower, clothed with a thin pubescence. *Spikes* terminal, from one to four. *Flowers* dark purple, very fragrant, much crowded, on short footstalks. *Pedicles* slender, smooth or slightly pubescent. *Calyx* 5-

toothed, obconical, slightly pubescent, punctate with minute purple dots: teeth villosely fringed, the two upper ones shortest and obtuse; the three lower ones acute, middle one longest but not acuminate. *Vexillum* broadly obovate, concave, slender at the base, longitudinally veined with several dark veins, purple. *Wings* and *Keel* none. *Stamens* 10, longer than the vexillum, all connected at the base, the upper part distinct and purple: *pollen* orange-coloured. *Ovarium* short, smooth, 2 or 3 seeded. *Style* hairy, about the length of the Stamens. *Stigma* a small blunt point.

We are assured by Mr. Lambert, that the plant from which the specimens were procured for our figure, is the very same from which the drawing was made for the Botanical Magazine above referred to; but at the time that figure was made, the plant was grown in a pot in the Greenhouse, whereas it is now growing in the ground in the open border; and we are informed by Mr. Lambert, that it has made shoots of ten or twelve feet in length, the last year, and is now grown to a large robust shrub. This will account for the difference in our figure and that in the Botanical Magazine. Mr. Lambert first received the plant from Mr. T. Nuttall, for his *A. nana*, which Pursh quotes as a synonym to his *A. microphylla*; this synonym is again quoted by Nuttall, in his Genera of American plants, under *A. nana*; but we have examined the specimens of *A. microphylla* of Pursh, of which there are some excellent ones in Mr. Lambert's Herbarium, and they are not in the least related to our plant, the leaflets not being above one-third the size, and of a different form, and crowded together; the calyx also, is not the least like the present, so that there must have been some mistake with the present plant, which appears to be quite a new species.

Our drawing was made from fine flowering specimens, received from Mr. Lambert's garden at Boyton, where it continued in bloom the greater part of the Summer. It is a native of North America, is quite hardy, and the delightful scent of the flowers will make it a very valuable shrub.



1. Calyx. 2. Vexillum. 3. Stamens connected at the base. 4. Ovarium, terminated by the hairy Style and simple Stigma.



Ed. Smith & Co.

Pub. by A. J. W. Marsh, 1822

ARGEMONE ochroleuca.*Straw-coloured Argemone.*

Natural Order. PAPAVERACEÆ. *DC. syst. 2. p. 67.*
ARGEMONE. Supra fol. 226.

A. ochroleuca, foliis profunde sinuatis pinnatifidisve glaucescentibus : nervis aculeato-setiferis, floribus terminalibus solitariis, staminibus paucis, capsula oblonga profunde sulcata aculeatissima, aculeis subreflexis ; stigmatibus distinctis patentibus.

Annual. Stem 3 or 4 feet high, branching ; *branches* slightly glaucous, irregularly clothed with sharp setæ-like prickles, which are strong enough to perforate the fingers when handling it. *Leaves* sessile, very deeply sinuate or sometimes nearly pinnatifid, undulate, glaucous, and elegantly painted up the centre and along the middle of the lobes with a bluish white, which gives them an elegant appearance : lobes spreading, toothed, the teeth and points acute and terminated by sharp spines ; the nerves underneath producing small rigid prickles irregularly here and there. *Flowers* terminal, solitary, pale straw-coloured, the young branches growing beyond them. *Peduncle* short, prickly, producing one or two small leaves a little below the flower. *Calyx* of three sepals, tinged with purple, those are clothed irregularly with various sized setæ, and terminated with long slender horn like appendages, which end regularly into a sharp spine, deciduous, first breaking away at the base, and are then pushed off by the expansion of the petals. *Corolla* generally of 6 petals, which are spreading, obovate, tapering to a slender base, crenulate, strongly many veined, the veins much branched. *Stamens* not so numerous as in the other species. *Filaments* smooth, yel-

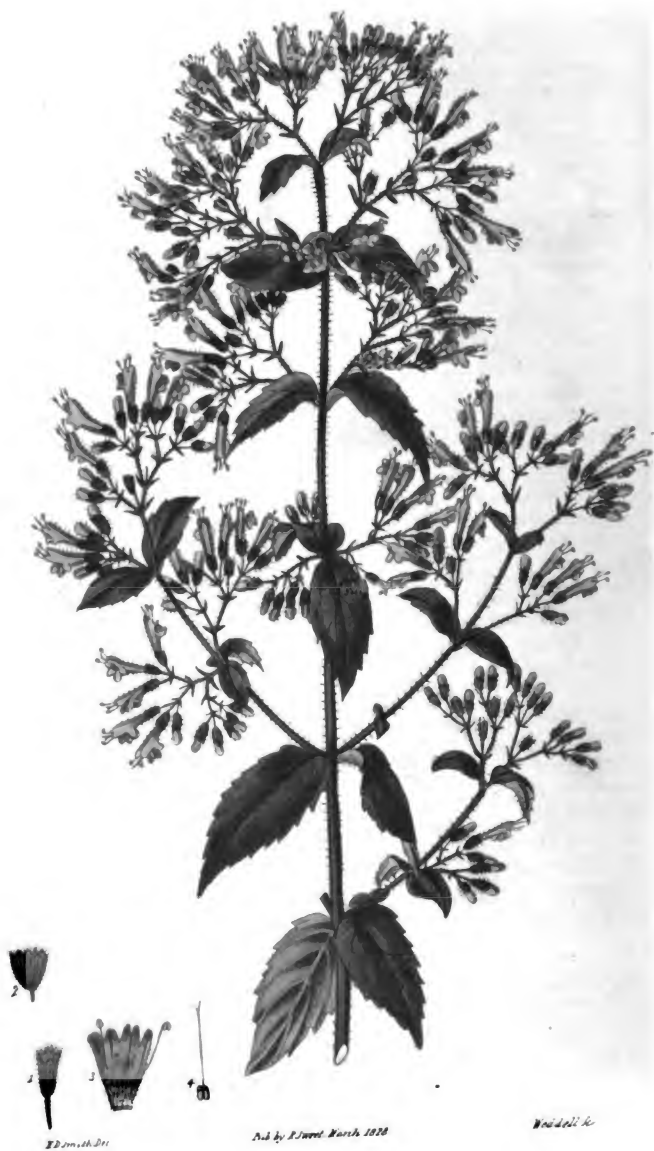
low, slender at the base and thickening upwards, but becoming again very slender where it is attached to the base of the anthers. *Ovary* bristly or setiferous, the setæ becoming strong prickles as the capsules become large. *Stigmas* 5 or 6, distinctly spreading, hollow or pitted at the points, dark purple. *Capsule* oblong, glaucous, nearly equal in size throughout, deeply 5 or 6-channelled, the angles rather acute, very spiny; the spines unequal in length, some of them very long and recurved, the shorter ones straight. *Seeds* numerous, brown, glossy, rugged, winged on the side that they are attached to the capsule.

The present plant is readily distinguished from *A. mexicana* by its narrower, deeper divided, and sharper leaves, by the shape and the deep channels of the capsules, and very readily by its distinctly spreading stigmas, those in *A. mexicana* being so crowded together that it is difficult to separate them; from the other two species it is very readily distinguished at first sight. It is a very handsome annual plant, attaining the height of three or four feet, and continuing to bloom from August to October, and may be raised from seeds sown in the open border in April, or if wanted to bloom early, the seeds may be sown in February or March, on a gentle hot-bed, or in pots in the Greenhouse, from whence they may be planted in the open borders in April or May, thriving well in the common garden soil, and seeds ripen in abundance, by which any quantity may be raised.

The specimens from which our drawing was made, were kindly sent to us by Robert Barclay, Esq. in whose superb collection at Bury-hill they were raised last Spring from seeds received from Mexico, at the same time as *A. grandiflora*. Mr. Cameron informs us that they were sown on a hot-bed in Spring, and from thence planted into the open borders; he has also lately informed us that he thinks *A. grandiflora* will prove perennial, as the plants are producing suckers from their roots, but the present, he says, is strictly annual.



1. The 3 Sepals of the Calyx in different views. 2. Three of the Stamens detached to show their form. 3. Capsule full grown. 4. Stigmas, showing their distinct spreading habit.



Edmonst. Det.

Pub. by E. J. Ward. March 1878

Ward & Co. N.Y.

CUNILA mariana.*Mint-leaved Mountain Dittany.**Natural Order.* LABIATÆ. *Brown prodr.* 1. p. 499.

Sect. I. Stamina 2 fertilia; v. dum 4 fertilia. Antheræ omnium dimidiatæ.

CUNILA. Calyx cylindricus, 10-striatus, 5-dentatus, fauce villosus. Corolla ringens: labio superiore erecto, plano, emarginato. Stamina 4: 2 sterilia brevia: 2 fertilia longe exserta. *Cariopses* 4.*C. mariana*, foliis ovatis subsessilibus serratis punctatis glabris: nervis subtilibus hirsutis, corymbis axillaribus terminalibusque dichotomis.*Cunila mariana.* *Linn. spec. pl. ed. 2.* p. 30. *Willd. spec.* 1. p. 122. *Vahl enum.* 1. p. 214. *Pers. syn.* 2. p. 129. *Pursh fl. amer. sept.* 2. p. 406. *Nutt. gen. amer.* 1. p. 16. *Hort. Kew. ed. 2. v. 1.* p. 48. *Spreng. syst.* 1. p. 54. *Lodd. bot. cab. t.* 1205.*Ziziphora mariana.* *Ræm. et Schult. syst.* 1. p. 208.*Calamintha erecta virginiana mucronato folio glabro.* *Moris. hist.* 3. p. 413. *sect. 11. t. 19. f. 7.* — *Pluk. mant. t. 344. f. 1.*

Root perennial. *Stem* erect, much branched, suffrutescent at the base: *branches* erect, or slightly spreading, quadrangular, purple, smooth below, and pubescent upwards. *Leaves* opposite, nearly sessile, or with very short footstalks, ovate, acute, more or less serrate, the teeth rather distant, punctated with numerous small dots on both sides, of a smooth glossy green, and slightly hairy on the upper side; underneath paler, strongly nerved, the nerves clothed with long spreading hairs. *Petioles* very short, clothed with long hairs. *Flowers* numerous in our specimens, of a bright purple, in dichotomous corymbs, both axillary and terminal, the corymbs several times forked with a flower in each fork. *Bractes* oblongly linear, blunt. *Pedicles* slender, smooth, purple. *Calyx* cylindrical, 10-striate, 5-toothed, clothed with short hairs, the mouth closed

with a tuft of villous white hairs; teeth short, nearly equal in size, ovate. *Corolla* ringent, tubular, inflated upwards, clothed with short hairs inside and out: upper lip straight, flat, and emarginate; the lower one 3-cleft, the laciniae flat, ligulate, spreading. *Stamens* 4, inserted in the tube, 2 fertile and bearing anthers, the other two short, sterile, and bearing no anthers, and inserted lower down the tube; fertile ones with very long filaments, exerted a great length beyond the mouth; *anthers* kidney-shaped, two-lobed, inserted by the back to the filaments. *Style* smooth, exserted. *Stigma* bifid, purple, the laciniae rather unequal, straight, or slightly spreading.

Fine strong specimens covered with flowers, of this scarce and handsome plant, were sent to us in August last, from the collection of Robert Barclay, Esq. of Bury-hill, where they were growing luxuriantly, cultivated in the open border of the Flower-garden, in sandy peat soil; his plants were imported from North America, where, according to Nuttall, they grow chiefly in rocky, and, to the south, in mountainous situations; so that it will make a handsome plant for ornamenting rock-work, or at any rate should be grown in a dry situation, as too much moisture would be likely to rot it in Winter, or it may be grown in small pots, and can then be protected under lights in frames in very wet weather or severe frost. It may be increased by dividing at the root, or by seeds.



1. Calyx closed. 2. The same spread open to show the 10 stripes, and the beard at the month. 3. Corolla spread open, showing the two fertile stamens, and the two barren ones below them. 4. The 4 Seeds, terminated by the Style and cleft Stigma.



L.P. Smith. 24

Pub. by R. W. H. Smith 1858

Woodcut 1

GALEGA persica.

*Persian Goat's-Rue.**Natural Order.* LEGUMINOSÆ. *Juss. gen.* 345.Subordo I. PAPILIONACEÆ.—Tribus II. Lotææ. *Supra fol.* 159.Subtribus IV. Galegææ. *Legumen* uniloculare. *Stamina* diadelphararius monadelpha. *Caules* herbacei fruticosi aut arborei. *Folia* primordialia aut alterna aut opposita disparia, imo simplici, altero pinnato. *DC. prodr.* 2. p. 243.GALEGA. *Supra fol.* 159.*G. persica*, foliolis ovato-oblongis subretusis mucronatis glaucescentibus, caule angulato flexuoso, stipulis anguste lanceolatis sagittatis, bracteis lineari-subulatis pedicellis longioribus.*Galega persica.* *Pers. syn.* 2. p. 330. *DC. prodr.* 2. p. 248. *Swt. hort. brit.* p. 124.

Root perennial. *Stems* several, much branched from near the base; *branches* nearly erect, or more or less spreading, flexuose, angular, furrowed, smooth, tinged with purple at the joints, from 2 to 3 feet high. *Leaves* alternate, pinnate, generally producing 5 pair of leaflets, and terminated by a terminal one; on weak branches there are sometimes not more than 3 or 4 pair of leaflets on each leaf, and on strong ones sometimes 6 pair: *leaflets* opposite, ovate or oblong, rounded at the point, and slightly retuse, terminated by a sharp weak mucrone, smooth on both sides, the upper side of a blue glaucous colour, underneath green, and pennately veined, the veins branched. *Petioles* smooth, angular, furrowed on the upper side, and thickened at the base. *Stipules* narrowly lanceolate, taper-pointed, broad at the base and sagittate, the ears long and taper-pointed. *Flowers* white, slightly sweet-scented, in close axillary racemes, which are very numerous, one in the axil of each leaf, sometimes longer than the leaves, and

sometimes shorter ; this is also the case with *G. officinalis* ; so that the character given by Decandolle of the length of the racemes does not hold good. *Peduncles* nearly cylindrical, slightly angular, and striated. *Bractes* linearly subulate, longer than the pedicles, sometimes but little longer, and sometimes twice the length. *Pedicles* short and slender. *Calyx* tubular, with 5 long slender subulate teeth. *Vexillum* ovate, deeply channelled down the centre and keeled at the back, the margins recurved. *Wings* shorter, spathulate, concave, eared on one side, with a very slender unguis on the other side. *Keel* slenderly unguiculate, sharply keeled, the point ascending and notched. *Stamens* 10, all joined in a tube, the points distinct and ascending, the upper one divided lowest down. *Ovarium* smooth. *Style* smooth, ascending. *Stigma* a very small head. *Pod* 1-locular, striate, linear, nearly cylindrical, few-seeded. *Seeds* distant, nearly cylindrical.

The present plant is nearly related to the white variety of *G. officinalis*, but is nevertheless a truly distinct species, easily distinguished when seen growing together, though they are united by Sprengel in his *Systema Vegetabilium*, as are numerous other plants, in the same work, many of which have not the least affinity with each other, and some of them belonging even to different sections of the genus.

Our drawing was made from a fine plant last Summer, communicated to us by Mr. W. Anderson, Curator of the Apothecaries' Company's garden, at Chelsea, where it was raised from seeds that Mr. Anderson received from France. It is a very desirable plant for the Flower-borders, being quite hardy, and flowers from July to October, and ripens plenty of seeds, which should be sown any time in Spring, either in pots, or in the open borders.



1. Calyx. 2. Vexillum. 3. The two Wings. 4. Keel. 5. The 10 Stamens, connected into a tube. 6. Ovarium, terminated by the Style and small Stigma. 7. Pod. 8. One of the Seeds.



S. J. Smith. Del.

See also *Handbook* 1888

W. H. & Co.

DIANTHUS Fischeri.

Fischer's Pink.

Natural Order. CARYOPHYLLÆ. *DC. prodr.* 1. p. 351.

Tribus I. SILENÆ. Sepala coalita in tubum cylindraceum apice 4-5-dentatum.

DIANTHUS. Calyx tubulosus 5-dentatus basi squamis 2-4 oppositis imbricatis. Petala 5 longè unguiculata. Stamina 10. Styli 2. Capsula 1-locularis. Semina compressa hinc convexa indè concava, pellata. Embryo vix curvatus. *DC. prodr.* 1. p. 355.

Sect. II. CARYOPHYLLUM. Flores paniculati vel solitarii.

§. 2. Petalis fimbriatis.

D. Fischeri, caule erecto paniculato-ramoso, floribus aggregato-corymbosis, squamis calycinis ovatis cuspidato-acuminatis erectis tubo duplo brevioribus, petalis multifidis fauce subpilosis, foliis lanceolatis serrulato-scabris.

Dianthus Fischeri. *Spreng. cat. sem. h. hal.* 1810. *Pl. min. cog.* 2. p. 62. *Syst. veg.* 2. p. 376. *DC. prodr.* 1. p. 365.

Perennial. Stem about eighteen inches in height, paniculately branching; branches spreading, nearly cylindrical, slightly angular, and thinly clothed with a short roughish pubescence. Leaves opposite, lanceolate, acute, connected at the base, slightly glaucous, strongly 1-nerved, striate, the margins very rough, serrulate with numerous minute cartilaginous teeth. Flowers of a beautiful lilac, fragrant, crowded in paniculated corymbs. Pedicles very short, enclosed in the lanceolate taper-pointed bractes. Calyx tubular, striated, purple, terminated in 5 lanceolate taper-pointed teeth, surrounded at the base by 4 ovate, sharp, taper-pointed scales, about half the length of the tube. Petals 5, spreading: the unguis long, flat, strongly 2-nerved, narrowing to the base: limb multifid, the segments again jagged, 3-nerved, fauce slightly bearded, or thinly clothed with long white hairs. Stamens 10, inserted in the receptacle, every other

one shorter : *filaments* smooth, inserted in the back of the anthers a little above the base. *Ovarium* smooth and glossy, nearly cylindrical. *Styles* 2, smooth, about twice the length of the stamens, fimbriate and twisted at the point, obtuse.

For the opportunity of giving a figure of this very handsome plant, we are obliged to Messrs. Young, Nurserymen, of Epsom, in whose Nursery we observed it flowering in profusion in the open border, in July last; and from fine specimens kindly given to us by them, our drawing and description were made; according to Sprengel it is a native of the south of Russia, so that it is likely to succeed well in our gardens; but, like the rest of this genus, will require to be raised from seeds or cuttings regularly, as the old plants will be apt to die off, after bearing such an abundance of flowers; it is certainly one of the most desirable plants for the Flower-garden, the flowers being very sweet-scented as well as beautiful. It thrives well in a rich garden soil, and young cuttings, planted under hand-glasses, will strike root readily; and it will be a good plan to keep some young plants in pots that may be preserved in frames through the Winter, for fear the old ones should be killed with a superabundance of wet.



1. Calyx. 2. One of the Petals, showing its long unguis. 3. The 10 Stamens, every other one longest. 4. Ovarium, terminated by the two Styles and fimbriate Stigmas.

Note. We have lately received a plant of the fine hybrid Magnolia. *M. Soulangiana*, from the Chevalier Soulangue-Bodin, Secretary of the Horticultural Society of Paris, who raised it from seed; it will be in bloom in our garden in a few days, where any person who wishes may be gratified with a sight of it.

DIPLOCOMA villosa.

*Villous Diplocoma.**Natural Order.* COMPOSITÆ. *Adanson* fam. 2. 103.Subordo III. *CARDUACEÆ*.—Div. 6. *Astereæ*. Kth. syn. 2. p. 399.

DIPLOCOMA. *Involucrum* polyphyllum, imbricatum. *Receptaculum* paleaceo-favosum. *Flosculi* radii foeminei, ligulati; *disci* hermaphroditi, tubulosi. *Antheræ* basi muticæ. *Achenia* periphæriæ apice calva; hermaphroditis papposa: *pappo* duplici; *exteriore* brevissimo, paleaceo; *interiore* elongato, piloso. *D. Don* Mss.

Descr. *Involucrum* globosum, polyphyllum, imbricatum, pilis articulatis flaccidis glandulisque plurimis pedicellatis copiose vestitum: *foliolis* linearibus, attenuatis, adpressis, obtuse carinatis. *Receptaculum* paleaceo-favosum. *Flosculi* radii copiosi, foeminei, ligulati, apice obtusè tridenticulati; *disci* numerosi, hermaphroditi, tubulosi, 5-dentati. *Filamenta* capillaria, glabra. *Antheræ* basi muticæ, appendiculâ ovato-lanceolatâ terminatæ. *Stylus* teres, lævis, basi simplicis. *Stigmata* radiis semicylindrica, obtusa, lævia; disco lineari-lanceolata, hispidula. *Achenia* difformia; radio oblonga, lævia, apice calva; disco cuneata, sericeo-villosa, papposa; *pappus* duplex; *exterior* brevissimus, setaceo-paleaceus; *interior* pilosus, denticulis scaber, 6-plò longior, cinereus, siccitate rufescens.—Herba (Mexicana) perennis, pilis longis articulatis patulis glandulisque copiosis pedicellatis intermixtis vestita, hispidula. Caules erecti, ramosi, teres, intus medullâ farcta, sesqui-v. bipedalis, crassitie vix ultra pennam corvinam æquantés. Folia alterna, sessilia, quandoque subamplexicaulia, oblonga, mucronata, integerrima v. denticulata, uninervia, sesqui-v. tripollicaria, semi-v. unciam lata; inferiora majora; superiora lanceolata, acuminata, sensim minora. Flores pedunculati, aurei, subcorymbosi. *D. Don*. Mss.

Diplocoma villosa. *D. Don* Mss.Doronicum villosum. *Sesse et Mocinno* Mss.

A herbaceous perennial. *Stems* from a foot to eighteen inches in height, branched and terminated by a loose corymb of flowers, striated with numerous longitudinal stripes, some of which are tinged with purple, densely clothed with spreading hairs, that are unequal in length. *Leaves* ovately oblong, entire, or occasionally toothed, hairy on both sides and fringed at the margins: root ones ovate, obtuse, with a few bluntish teeth on each side: stem ones sessile, clasping the stem a little at the base, some of them fiddle shaped, others tapering gradually to the point, which is acute, reticulately veined; the upper ones or those on the flower-stalks, sessile, lanceolate and acute. *Corymbs* loosely spreading, branched. *Peduncles* striate, very hairy, thickened near the flower-head. *Flowers* large, yellow. *Involucre* many-leaved, closely imbricate, villosely hairy: *leaflets* narrowly linear, terminated by a purple point. *Receptacle* honey-

combed, the partition between each seed irregular, terminated in unequal fleshy points. *Rays* numerous, spreading, narrowly ligulate or linear, each terminated by three small teeth, tubular at the base, the tube pubescent, producing a style and bifid stigma, and a hairy seed without pappus. *Florets of the disk* numerous, tubular, slender at the base and widening upwards, 5-toothed, the nerves alternate with the teeth, which are ovately lanceolate, acute, spreading. *Stamens* 5, inserted into the tube: *filaments* slender, distinct: *anthers* connected into a tube, exerted when the floret is expanded, naked at the base. *Akenia* or *Seed* flat, striate, hispidly hairy, crowned with a double pappus, which is radiately spreading; the inner one composed of long slender hairs, the outer one of short flat chaff-like ones. *Style* smooth, exerted. *Stigma* bifid, the points connivent.

"The genus *DIPLOCOMA* differs essentially from *DORONICUM*, in having an imbricate irregular involucre, by its chaffy honey-combed receptacle, and finally by its double seed-crown, and its hornless anthers; its double pappus in the seeds of the disk, the structure of the receptacle, and the marginal seeds being destitute of pappus, remove it widely from the normal group of *Inulæ*; and the same characters, with the exception of the hornless anthers, will prevent its being confounded with the genus *CHRYSOPSIS* of Nuttall, the *DIPLOSTEPHIUM* of M. Kunth. We have ascertained it to be the *Doronicum villosum* of Sesse and Mocinno, from comparison of wild specimens in the Lambertian Herbarium. Our drawing was made from living samples, communicated by Robert Barclay, Esq. in whose rich and varied collection at Bury-hill the plant had been raised last Spring from Mexican seeds."

For the above account, we are indebted to Mr. David Don, who kindly allowed us to copy it from his manuscript. Mr. Cameron informed us that the plants have been in flower in the borders all the last Summer, and have ripened seeds, but it will most probably require a little covering in Winter to preserve it from the severest frost. The generic name is composed of *Διπλῶς*, double, and *κομη*, a lock of hair, in allusion to the seeds being furnished with a double pappus.



1. Involucre. 2. Receptacle. 3. One of the Rays with the seed at the base, without any pappus. 4. Floret of the disk with the seed at the base, terminated by the double pappus. 5. Floret spread open, to show the nerves alternating with the teeth. 6. The 5 Stamens, the anthers united and the filaments distinct. 7. Seed, showing the inner pappus, and the Style and Stigma. 8. Seed magnified, to show the outer pappus.



E. Smith del.

Painted by B. Forrest April 1861

W. H. Smith del.

PAPAYER alpinum.

Alpine Poppy.

Natural Order. PAPAVERACEÆ. *DC. syst. veg.* 2. p. 67.

PAPAYER. *Supra fol.* 172.—§. 1. *Capsulis hispidis.*

P. alpinum, capsulâ hispidâ obovato-oblongâ, sepalis pilosiusculis, pedunculis radicalibus, foliis glabriusculis bipinnatisectis, lobulis tenuibus subacutis. *DC. loc. cit.* p. 72. *Prodr.* 1. p. 118.

Papaver alpinum. *Linn. spec.* 725. *Jacq. fl. aust.* t. 83. *Willden. sp. pl.* 2. p. 1145. *Pers. syn.* 2. p. 62. *Hort. Kew. ed.* 2. v. 3. p. 289. *Spreng. syst.* 2. p. 569.

Papaver Burseri. *Crantz austr.* 2. p. 138. t. 6. f. 4.

A dwarf perennial herbaceous plant, becoming thickened at the base, and sometimes producing several shoots. *Leaves* more or less crowded, petiolate, smooth or slightly pubescent, slightly glaucous, pinnate; the *leaflets* distant, pinnatifid, or sometimes bipinnatifid; *segments* narrow, bluntish or scarcely acute, spreading. *Petioles* slender, flattened on the upper side, and hairy at the edges, the hairs long and at a distance from each other, bending inwards. *Peduncles* about a span in length, cylindrical, smooth on the lower part, the upper part thickly clothed with close-pressed hairs. *Calyx* of 2 sepals, clothed with soft brown close-pressed hairs. *Petals* 4, white, with a yellowish green unguis, nearly orbicular, more or less crumpled, and notched at the margins, the two outer ones about double the size of the inner ones. *Stamens* numerous, surrounding the germen: *filaments* smooth, slender, of various lengths: *anthers* joined by their base to the filaments, two-celled, opening longitudinally to discharge the pollen, which is of a bright yellow. *Germen* oval, bristly, terminated with from 4 to 6 sessile, radiate, fringed stigmas, and betwixt each is a glossy green crescent-shaped gland.

Our drawing of this pretty and very rare Alpine plant was made last Summer at the Apothecaries Company's Garden, at Chelsea, where it continued to flower a great part of the Summer and ripened seeds, so that we hope there will be no danger of its being again lost, which we believe it frequently has; as the plant generally cultivated as *P. alpinum*, is, *P. pyrenaicum* of Decandolle, a species with a yellow flower, and which is also very apt to die off as well as the present; but as it is of stronger growth and seeds abundantly, it is more easily preserved.

The present species has now flowered two years following with Mr. Anderson, but much stronger last Summer than the former one; as the plant is so liable to die off in Winter, the best way to preserve it is to grow it in rock-work, and to place a little pot over it in very severe dry frost, or when there is a superabundance of rain; we have succeeded in preserving many tender things by that means, as it partly answers the purpose of the snow that covers them through the greater part of the Winter in their native country; if kept in pots in frames through the Winter they must be exposed to the open air at all times, except in very wet weather, or severe frost, or they will be almost certain to damp off. Seeds, sown early in Spring, will flower the same Summer.



1. Portion of the Stamens to show their difference in length. 2. Capsule terminated by the four spreading Stigmas that are fringed, and between each is a crescent-shaped gland.



Phlox paniculata

Paint by H. Bennett, Apr. 12, 1915

H. Bennett

PHLOX scabra.*Rough-leaved Lychnidea.*

Natural Order. POLEMONIACEÆ. *D. Don. obs. on Polem. p. 4.*
PHLOX. Supra fol. 29 et 190.

P. scabra, caule inferne glabro superne pubescente, foliis oblongo-lanceolatis acutis supra scabris: margine undulatis denticulato-scaberrimis, floribus laxè paniculatis, calycibus pilosis: dentibus subulatis rectis, tubo corollæ curvato villosa: laciniis obovatis patentibus.

Phlox americana. *Hortulanorum.*

Stem erect, 3 to 4 feet high, slightly decurrent, of a pale green, smooth, and glossy below; the upper part pubescent, dark purple at the joints. *Leaves* or short footstalks, opposite, oblongly lanceolate, acute or taper-pointed; the lower ones becoming narrow towards the base, upper ones much broader, very rough like a rasp on the upper side, of a bright green; underneath paler, smooth, pennately nerved, the nerves much branched, and connected a little within the margins, the margin much undulate, and sometimes slightly recurved, very rough, occasioned by minute teeth which bend inwards: upper leaves pubescent and fringed with longish hairs. *Flowers* fragrant, of a lilac colour, lightest at the base, in loosely spreading panicles, the branches clothed with stiffish unequal short hairs, and terminated by a loose many-flowered corymb. *Bractes* lanceolate, fringed with long hairs and tapering to a long slender point. *Pedicles* slender, pubescent, purplish. *Calyx* tubular, very hairy, 5-angled, membranaceous between the angles, terminated in 5 long slender straight subulate teeth, which are very taper-pointed. *Corolla* tubular, with a 5-cleft, divaricately spreading limb: tube a little curved, densely clothed with villous hairs: segments of the limb rather long and narrow,

smooth, distinctly spreading, obovate, with a slight notch at the point. *Stamens* 5, inserted in different parts of the tube; and all included; *pollen* straw-coloured. *Ovarium* smooth and glossy. *Style* smooth, included. *Stigma* trifid, erect.

Our drawing and description of this very distinct species, was taken from fine specimens kindly sent to us from the collection of Robert Barclay, Esq. of Bury-hill, in August last, under the name of *P. americana*; we also received a plant of it under the same name from Mr. G. Wheeler, Nurseryman, of Warminster. It is readily distinguished from all others with which we are acquainted by the long filiform teeth of the calyx, the villosely hairy tube of the corolla, and its very rough leaves; we believe it to be a new and nondescript species, as it does not agree with any published description that we have had an opportunity of examining; it thrives well in the open borders of the flower-garden, and may be increased by suckers from the root; or by cuttings planted under a hand-glass, but which must not be kept too close, or they will be apt to damp off; it is also a good plan to preserve some plants in pots of all the different species of this genus; they can then be preserved in spare frames through the Winter, and can be covered with the lights in severe frost, or in very wet weather, as the old plants in the ground frequently die in Winter, so that others are wanted in Spring to supply their place.



1. Calyx, terminated by the 5 long filiform teeth. 2. The pubescent tube of the corolla laid open to show the insertion of the 5 stamens. 3. Ovarium, terminated by the slender Style and trifid Stigma.



Wallich &

ORCHIS longicornu.

Long flat-spurred Orchis.

Natural Order. ORCHIDEE. *Brown prodr.* 309.

Sect. I. MONANDRÆ. Anthera adnata subterminalis persistens.
Pollinis massæ e lobulis angulatis elastice cohærentibus : basi affixæ.
Brown Hort. Kew. ed. 2. v. 5. p. 188.

ORCHIS. Supra fol. 65.

* *Radice tuberosa indivisa.*—† *Labello diviso.*

O. longicornu; labello lato trilobo : lobis lateralibus rotundatis : medio minore subretuso, perianthii laciniis conniventibus obtusis, cornu adscendente elongato spathulato compresso, bracteis acutis ovario brevioribus.

Orchis longicornu. *Poiret Itin. 2. p. 247. Desf. atl. 2. p. 317. t. 246. Willden. sp. pl. v. 4. p. 19. Pers. syn. 2. p. 503. Lamarck encycl. 4. p. 591. Botan. regist. 202.*

Orchis longicornis. *Smith prodr. flor. græc. v. 2. p. 212. Sims Botan. magaz. 1944.*

Root composed of two oval fleshy tubers, above which are produced a few spreading fleshy fibres. *Leaves* several, spreading, lanceolate, bluntish, but terminating in a short point, keeled and striate at the back, and channelled on the upper side, smooth, of a bright glossy palish green colour. *Stem* from a span to nine inches in height, leafy at the base, the leaves sheathing the stem, smooth, and more or less purple. *Flowers* from 6 to 10, varying a little in colour, very handsome. *Bractes* lanceolately linear, acute, shorter than the ovary, which it sheaths at the base, of a thin texture, and of a pale purple colour. *Ovary* twisted, angular, purple. *Perianthium* of 5 leaflets, connivent, and forming an arch, obtuse, lilac or pale purple ; the three outer ones double the breadth of the inner ones, oblong, concave inwards : the inner ones spatulately linear. *Labellum* large and spreading, three-lobed : the side lobes

large, rounded, of a rich dark velvety purple : middle one small and short, slightly retuse, of a lighter purple, and spotted with small black specks on the upper side. *Spur* long and flat, spatulate, or widened towards the end, light purple, ascending. *Anther* 2-lobed, each lobe enclosed in a light purple hood. *Pollen-masses* pedicled, each pedicle seated on a little gland at the base.

The present handsome species of *Orchis* is native of the South of Europe, Barbary, and Greece, and is nearly related to the *O. Morio* of this country, but differs in the length of its spur, besides other distinctions. Our drawing was made from a plant given us by Mr. W. Anderson, Curator of the Apothecaries' Company's Garden at Chelsea ; we planted it in a border in our garden last Spring, at which time the bulb was so small that it was not strong enough to flower, but it continued to grow, and is now a strong plant, and producing offsets ; it came into flower in February last, and continued in bloom till the beginning of April ; the soil in which it is grown is of a light sandy nature, and we find the greater part of the hardy *Orchideæ* thrive in it very well, and continue to increase in strength, instead of diminishing. We saw several plants of it in the Chelsea Garden flowering at the same time ; but being in pots in the frames, they did not flower so strong, but we observed several young seedlings coming up in the pots with them, that had sown themselves the preceding Spring.



1. Ovarium, terminated by the back leaflet of the Perianthium, and the two inner smaller ones. 2. The two side outer leaflets of the Perianthium. 3. Labellum, showing the two large side lobes, and the shorter middle one, with the long flat spur at the back. 4. Column showing the two lobes of the Anther, the pollen-masses detached from the hood, pedicled and seated on small glands.



F. G. Jones & Co. Del.

Pub. by R. J. Jones & Co. 1878.

W. J. Jones & Co. Del.

RHODODENDRON arboreum.*Scarlet-flowered tree Rhododendron.**Natural Order.* ERICÆÆ. *D. Don. prodr. fl. nepal. p. 148.*Subordo III. RHODORACEÆ. *D. Don. loc. cit. p. 152.*

RHODODENDRON. *Calyx* 5-partitus. *Corolla* monopetala, sæpius campanulata v. basi tubulosa, (nunc raro rotata s. 3-partita,) limbo 5-loba, subbilabiata; *labio superiore* latiore, sæpius maculato. *Stamina* 5-10, sæpius exserta. *Antheræ*, apice foramine duplici hiantes. *Capsula* 5-locularis, 5-valvis, raro (in *R. arboreo*) 10-locularis, 10-valvis, septicido-dehiscens. *Placenta* simplex, angulata. *Semina* compressa, scobiformia, alata.—*Frutices* v. *Arbores*, sæpius *sempervirentes*. *Folia alterna*, integerrima, apice sphacelata s. glandulâ luteâ terminata. *Flores terminales*, corymbosi, speciosi, colore *varii*. *D. Don. prodr. p. 152.*

R. arboreum, foliis lanceolatis acutis subtus argenteis basi subacutis, floribus confertis, pedunculis calycibusque lanatis, corollis campanulatis: laciniis bilobis margine crispato-crenulatis, capsulâ 10-loculari tomentosâ. *D. Don. prodr. p. 154.*

Rhododendron arboreum. *Smith exot. bot. t. 6. Spreng. syst. 2. p. 292. Botan. regist. 890. Swt. hort. brit. p. 264.*

A handsome evergreen tree, in its native country about the size of a middling-sized Cherry-tree, 20 feet high or more, clothed with a hard thick bark, which cracks irregularly, and peels off: *branches* smooth, erect, or spreading and ascendant, round, thick and succulent when young, but becoming hard by age. *Leaves* lanceolate or rarely elliptic, acute, sometimes very long, of a thick leathery substance, penninerved, the nerves branched, and connected a little within the margin; upper side of a light yellowish green, but glossy; underneath silvery white, obsoletely reticulate: margins a little thickened, very slightly reflexed. *Petioles* flattened and furrowed on the upper side, and rounded on the lower, rugged, and more or less clothed with a short woolly pubescence. *Flowers* of a bright scarlet, in a close nearly globular crowded corymb, from 15 to 20 in each. *Bractes* scale-like, surrounding the corymb, numerous, variable, round or roundly ovate, a little pointed, concave inward and striate; 1-nerved at the back, and clothed with short silvery wool, the edges membranaceous. *Peduncles* short, tomentose. *Calyx* short, and tomentose, the seg-

ments very short and broad. *Corolla* large, bell-shaped, scarlet, spotted inside with innumerable small black specks, 5-lobed, the lobes nearly equal in size, broad, slightly two-lobed, the margins a little curled, and notched with small unequal crenatures, the five divisions are cucullate or cupped at the base, where they are filled with honey. *Stamens* 10; *filaments* unequal in length, ascending: *anthers* purple, two-lobed; each lobe opening at the point to discharge the pollen. *Ovarium* 10-angled, densely clothed with white tomentum. *Style* a little longer than the stamens. *Stigma* capitate, slightly two-lobed.

Our drawing of this beautiful scarlet variety, was made from a plant in flower this Spring, in the collection of the Earl of Liverpool, Coombe-wood; it is without doubt the finest species of the genus; but in the neighbourhood of London, it requires a little protection in Winter, either to be placed in a Greenhouse or Conservatory, or if planted in the open border, it will need the protection of a mat or some other covering in severe weather. In Devonshire, and the more southern counties, it will succeed well in the open air all the Winter, thriving best in peat soil, or in very light sandy loam, and may be increased by seeds or layers, or by inarching on the *R. ponticum*, or other strong growing sort.

Mr. W. Smith, his Lordship's Gardener, has succeeded in raising numerous hybrids between the present species and *R. ponticum*, and others between the present and *Azalea pontica*; those will be still more valuable, as they will be quite hardy as well as curious and beautiful: he has also raised a great quantity of seedling varieties of *Azalea indica*, and mules between it and *R. dauricum*: and also a quantity of curious hybrids between *Cereus speciosus* (*phyllanthoides*, DC.) and *C. speciosissimus*, some of which are nearly of a flowering size.

We agree with Mr. D. Don in uniting *Rhodora* and *Azalea* with *Rhododendron*, as there are no proper limits between them, and we have succeeded in muling the whole of them together, the produce of which will still unite them closer.



1. One of the Bractes. 2. Corolla divested of the limb to show its bell-shape, and the hollow lobes at the base. 3. Stamen. 4. The short Calyx, enclosing the woolly Ovarium, terminated by the Style and slightly 2-lobed capitate Stigma. 5. Ovarium spread open to show the 10 angles.



Ed. Smith Del.

Pub by R. Sweet Aug. 1828

Waldell do

YUCCA puberula.

Pubescent-stemmed Adam's Needle.

Natural Order. TULIPACEÆ. *Kth. synops.* 1. p. 292.

YUCCA. Supra fol. 53.

Y. puberula, acaulis, foliis patentibus lanceolatis lineari-lanceolatisque planis glaucis apice concavis mucronulatis margine filamentiferis, caule erecto paniculato-ramoso; ramis flexuosis tomentoso-pubescentibus, perianthii laciniis elliptico-lanceolatis acutis.

Yucca puberula. *Haworth in the Philosophical Magazine and Annals, for March 1828. p. 186.*

Root perennial, producing numerous suckers, stemless. *Leaves* from a foot to 18 inches in length, and from an inch to an inch and half in breadth, spreading, smooth, of a very blue glaucous colour, flat or a little concave at the points, of a thin weak texture, generally erect, or spreading straight, the points of some of the old ones slightly bent downwards, lanceolate or linearly lanceolate, tapering to the base and point, the point terminated by a softish brown spine, longitudinally striated with numerous faint lines; margins smooth, edged with a yellowish brown membrane, which tears up irregularly so as to appear like numerous threads, that are more or less curled. *Flower-stem* erect or slightly flexuose, from four to four and a half feet in height, clothed with a woolly pubescence, which increases in thickness on the upper part of the stem, leafy below the branches, the leaves from 3 to 5 inches in length, and pressed close to the stem, beginning to branch about two feet from the ground: *branches* densely clothed with a soft woolly down, much bent or flexuose, spreading. *Flowers* crowded, of a lemon-scent, white or tinged with green, in threes at the base of the branches, in pairs higher up, and towards the point solitary. *Bractes* broadly lanceo-

late, taper-pointed, broad at the base, caducous. *Peduncles* nodding, less pubescent than the branches. *Perianthium* 6-parted, nearly to the base, inflated in the middle, slightly pubescent outside, the leaflets elliptically lanceolate, acute, the three inner ones broadest, the points generally curved inwards. *Stamens* 6, inserted in the base of the perianthium: *filaments* densely clothed with long pelucid fleshy hairs, scarcely as long as the Ovarium, thickening at the points when the anthers burst: *anthers* sagittate. *Ovarium* 6-furrowed, smooth. *Stigma* three-sided, deeply three-furrowed, 3-parted about half way down, the points two-lobed or emarginate.

Our drawing of this plant was made from fine specimens kindly communicated to us last Summer, by Mr. J. Miller, of the Bristol Nursery, who believes he received it from North America. Mr. Haworth, on our showing it him, immediately pronounced it as a new species, and he has since published it in the Philosophical Magazine and Annals, under the name that we have adopted: it is nearest related to *Y. flaccida* and *Y. glaucescens*, particularly to the former, which has also pubescent flower-stems, but differs from the present by its flaccid leaves, that are all bending downwards from about the middle, which has occasioned it to be confounded with *Y. recurvifolia* in most of our collections, but that is a very different and much scarcer plant, of strong growth, with green leaves, and not filamentose at the margins, or very rarely so.

The present plant thrives well in the open borders in the common garden soil, and makes a fine appearance when in bloom; it is increased by the suckers from the root.



1. The 6 Stamens, showing the hairy filaments. 2. The Ovarium. 3. Stigma, three-furrowed and three-parted about half way down, the points emarginate.



E. C. Smith del.

Printed by R. Wood, May 1828.

W. D. Hall sc.

HORMINUM pyrenaicum.

Pyrenean Horminum.

Natural Order. LABIATÆ. *Brown prodr. p. 499.*

Sect. IV. Stamina 4 fertilia. Corolla bilabiata. Calyx bilabiatus.

HORMINUM. *Calyx* turbinatus striatus, fauce glaber, supra 3-dentatus, infra bifidus. *Corolla* labium superius bilobum, inferius trilobum, laciniis subæqualibus. *Stamina* 4, didynama.—*Folia* pleræque radicalia; *caules* simplices; *flores* laxè verticillato-spicati.

H. pyrenaicum, foliis ovato-subrotundis crenato-dentatis, verticillis inferioribus distantibus. *Pers. syn. 2. p. 132.*

Melissa pyrenaica. *Willden sp. pl. 3. p. 148.* *Jacq. hort. vind. 2. p. 86. t. 183.* *Lam. ill. t. 515.* *Spreng. syst. 2. p. 692.*

Root perennial. *Leaves* radical, tufted, spreading, ovately rounded, rugged, unequally notched at the margins with broad shallow notches, punctated with innumerable minute dots, smooth on both sides, upper side of a darkish green, paler underneath. *Petioles* furrowed on the upper side, and rounded on the lower, pubescent. *Stem* erect, naked, from a foot to 18 inches in height, quadrangular, channelled on each side, clothed with a short pubescence. *Flowers* in whorls round the stem, distant on the lower part, dark blue, generally 5 or 6 in each whorl. *Bractes* broad, cordate, acute, longitudinally nerved, ciliate. *Pedicles* short, of a dark bluish purple, pubescent. *Calyx* turbinate, 2-lipped, striated with dark purple veins, spreading at the mouth, pubescent outside, and naked within: upper lip sharply 3-toothed, the teeth spreading: lower lip bifid, the laciniae taper-pointed. *Corolla* tubular, 2-lipped, pubescent; upper lip shortly 2-lobed, arched over: lower one 3-lobed, the middle lobe largest: tube hairy inside. *Stamens* 4, inserted in the tube, 2 long and 2 short: *fila-*

ments smooth, attached to the back of the anthers. *Style* smooth, pale blue. *Stigma* 2-cleft, lower segment longest.

Our drawing of this handsome plant was made last Summer from fine specimens sent us from the extensive collection of rare plants belonging to Robert Barclay, Esq. of Bury-hill; we have also received specimens of it from Messrs. Young's Nursery at Epsom, and from Mr. G. Wheeler's Nursery at Warminster. It is certainly a most beautiful perennial plant, and continues in flower a great part of the Summer, thriving well in the open borders of the Flower-Garden, but it is also a good plan to keep some plants in pots, that they may be protected in frames in Winter, as those in the open ground are sometimes apt to be killed by excessive moisture; those in pots can also be turned into the borders at any time, wherever they are wanted, and without injury to the plants. It is certainly a plant that ought to be in every collection, as it makes a fine show when in flower. It may be increased by dividing at the root, or by seeds. If the seeds are sown as soon as ripe, they will make flowering plants for the next Summer.



1. Calyx. 2. Corolla spread open to show its bearded base, and the insertion of the Stamens, the Anthers being attached to each other in pairs. 3. The four Ovariums terminated by the Style and bifid Stigma.



A. D. Smith del.

Pub. by R. Swain, June 1855

Smith. 3

ÆNOTHERA speciosa.*Handsome white Ænothera.*

Natural Order. ONAGRARIÆ. *DC. prodr.* 3. p. 35.
ÆNOTHERA. *Supra fol.* 5 et 133.

Æ. speciosa, puberula, caule suffruticoso, foliis oblongo-lanceolatis utrinque attenuatis serratis subpinnatifidisque nervosis subtus pubescentibus, floribus racemosis, racemo nudo primùm nutante, petalis obcordatis stamina æquantibus, capsulis obovatis angulatis.
DC. prodr. 3. p. 50.

Ænothera speciosa. *Nuttall in mem. acad. nat. scien. philad.* 1821. p. 119. *Hook. exot. flor.* 80. *Spreng. syst.* 2. p. 230. *Swt. hort. brit.* p. 152.

Root perennial. *Stem* suffruticose, upright or ascending, much branched, from two to three feet in height, thickly clothed with a short dense pubescence, the points of the short hairs curved inwards. *Leaves* numerous, oblongly lanceolate, bluntish at the point, unequally toothed with blunt teeth, runcinate or nearly pinnatifid near the base, clothed on both sides with a short pubescence. *Petioles* short, flattened on the upper side, and rounded on the lower, pubescent. *Flowers* very large, white when first expanded, but dying off blush, at last becoming purple, terminating the branches in a longish nodding raceme, the flowers expanding in succession. *Bractes* lanceolate, acute, terminated in a brown callous point, more or less toothed. *Ovarium* below the flower, sessile, spatulately 4-angular, pubescent. *Calyx* tubular, pubescent, 4-cleft, the segments long and narrow, lanceolate, acute, generally connected near the points, but divided at the base. *Petals* 4, inserted in the mouth of the tube, obcordate, crenulate at the edges, strongly nerved with numerous nerves from the base, which branch all over the petals. *Stamens* 8, in-

serted in the mouth of the tube, 4 opposite to the petals, and 4 alternating with them: *filaments* smooth, about half the length of the petals, inserted in the back of the anthers: *pollen* stringy, straw-coloured. *Style* smooth, reaching beyond the stamens. *Stigma* 4-cleft, the segments nearly cylindrical, blunt, succulent, spreading.

One of our finest hardy perennials, native of plains near the red river in North America, where it was first discovered by Mr. Nuttall; it is now becoming plentiful in our collections, where it thrives well in the open borders in a rich light soil, and soon makes a large plant, as it produces shoots from its base, which run under ground, and come up at some distance from the original stem; these shoots taken off in Spring will become strong plants before Autumn, but if taken off in Autumn, they will seldom succeed so well, being very apt to die off before they have made sufficient roots; young cuttings, planted under hand-glasses in Spring or early in Summer, will strike root readily, and will become strong and well rooted enough to stand the Winter; but if struck late in the Summer, their roots will not be sufficiently ripened to keep them alive through that season; we have seen a great quantity of them die off through that circumstance.

Our drawing was made from fine specimens, given to us by Robert Barclay, Esq. of Bury-hill, where it was grown in a border of peat soil, and was thriving luxuriantly, producing a great number of its fine large flowers; we also received fine specimens of it from Messrs. Young, Nurserymen, at Epsom, Surrey, where we, last Summer, saw a considerable clump of it in full bloom.



1. Calyx. 2. The 8 Stamens inserted in the mouth of the tube, the anthers inserted to the filaments by their back. 3. The Ovarium. 4. The upper part of the Ovarium terminated by the long Style and the four-cleft spreading Stigma.



L. alba, L. f.

Pub. by R. Sweet. Paris 1828

Waddell &

PRIMULA glaucescens.*Glaucous-leaved Primrose.**Natural Order.* PRIMULACEÆ. *Brown prodr.* 427.*PRIMULA.* *Supra fol.* 8.

P. glaucescens, foliis oblongo-lanceolatis acutis rigidis cartilagineo-marginatis subtus glaucescentibus, umbella pauciflora, calycibus acuminato-dentatis. *Spreng. syst.* 2. p. 576. n. 46.

Primula glaucescens. *Morett.* *P. integrifolia.* *Wulff.* et *P. calycina.* *Gand. ex Spreng. syst. loc. cit.*

Stem short. *Leaves* numerous, sessile, rigid, radiately spreading, imbricate over each other, oblongly or broadly lanceolate, acute, slightly undulate, or sometimes quite flat, entire, with a cartilaginous or horny margin, that is slightly erose, smooth and of a glossy green on the upper side; underneath pale or glaucescent. *Scape* short in our plant, about the length of or a little longer than the leaves, smooth, obsoletely angular, or sometimes flattened. *Umbel* in our plant five-flowered. *Involucre* of 5 long, narrow, linear, acute bractes, that are nearly as long as the pedicles and calyx together, in our plant. *Pedicles* shorter than the calyx, smooth. *Calyx* tubular, deeply 5-cleft, tinged with a reddish purple; the segments lanceolate, taper-pointed, and keeled. *Corolla* tubular, with a deeply 5-cleft, spreading limb, of a bright purple: tube large, bluntly 5-angular, about twice the length of the calyx: limb much spreading, the segments distinct, or slightly imbricate towards the base, very broad, roundly obcordate, veined, unguiculate at the base, and producing a gland like protuberance between the segments, the lobes bluntly rounded; sometimes, but rarely 3-lobed: slightly pubescent within the mouth. *Stamens* 5, inserted in the tube. *Ovarium* smooth, striated. *Style* smooth, not exserted. *Stigma* capitate.

For the opportunity of giving a figure of this handsome and rare plant, we are obliged to Mr. W. Anderson, the Curator of the Apothecaries' Company's Garden at Chelsea, where it first came into flower in April last; he had raised it from seed about three years before, that he received from the late Mr. Schleicher, of Bex, who collected it in Switzerland; it is nearer related to *P. integrifolia* than to any other with which we are acquainted, but is readily distinguished by the long taper-pointed segments of the calyx, which in *P. integrifolia* is short and bluntly rounded.

The present plant will prove a great acquisition to the genus *Primula*, and it appears to be easy of cultivation; the plant from which our drawing was made was grown in a small pot, in light sandy loam, but it would doubtless succeed well in rock-work, or in a border where it did not get too much moisture; and it may be increased by dividing at the root; or, which is more preferable, by seeds, which we believe will ripen.



1. Calyx. 2. Tube of the Corolla spread open, to show the insertion of the Stamens, and the white gland-like substances at the mouth. 3. Ovarium terminated by the Style and capitate Stigma. 4. One of the long slender Bractes of the Involucrum.



W. J. Smith del.

Lab. by E. J. Smith. June 1820

W. J. Smith sc.

IRIS caucasica.

Caucasean Iris.

Natural Order. IRIDEÆ. *Brown prodr.* 302.

IRIS. *Supra fol.* 68.

I. caucasica, imberbis, foliis circinato-falcatis conduplicatis scapo subbifloro longioribus, perianthii laciniis exterioribus crista rugulosa notatis; interioribus minutis lanceolatis reflexis, stigmatibus obtusissimis retusis, ovarium teretiuseculum.

Iris caucasica. *Steven dec. pl. iber. ex Marsch. Bieb. taur. cauc.* 1. p. 33. *Hoffm. comm. mosqu. V. 1. P. 1. p. 40. Rœm. et Schult. syst.* 1. p. 480. *Link enum.* 1. p. 60. *Spreng. syst.* 1. p. 159. *Suct. hort. brit.* p. 349.

Statuta *I. pumilæ*, *Radix bulbosus tunicatus.* *Flores* magnitudine *I. persicæ* ochroleuci vel leucophæi: *tubo* filiformi: *petalis* exterioribus ovatis obtusis in medio crista rugosa luteâ loco barbæ: interioribus minutis lanceolatis integerrimis trifidisve reflexo-patulis; *stigmatibus* magnitudine fere petalorum majorum erectis: laminis hyalinis obtusissimis retusis. *D. Steven ex M. Bieb. loc. cit.*

Bulb tunicate, of the size and form of *I. persica*, clothed with thin membranaceous scales, and producing from the base several large fleshy roots. *Leaves* channelled, distichous or fan-shaped, lanceolate, falcate, conduplicate, taper-pointed, glaucous on the outside and green within, longitudinally striated with white lines, also margined with white. *Scape* shorter than the leaves, generally 2-flowered. *Spathe* inflated, striate. *Flowers* straw-coloured: *tube* slender: *outer segments* ovate, obtuse, marked with a rugged yellow crest, but not bearded: *inner segments* small, lanceolate, acute, undulate, slender at the base, reflexed or bent downwards. *Stamens* 3. *Ovarium* nearly cylindrical. *Stigmas* 3, large, erect, about the size of the largest segments, very broad at the end, transparent, bluntly rounded and retuse.

We are obliged to the Honourable and Reverend W. Herbert, of Spofforth, Yorkshire, for the drawing made by him of this very rare plant, which flowered in his collection in February last, in a pot plunged in a dry border, sloping to the south, without any protection, in which situation it has been kept six or seven years, when it was first raised from seed. It is a native of Mount Caucasus, and is mentioned by Marschall Bieberstein as being frequent on sunny hills round Tiflis, flowering early in Spring; we have seen a native specimen of it in Mr. Lambert's Herbarium, which agrees precisely with our plant, the bulb nearly resembles the Persian Iris, as does the habit of the plant. *I. alata* is a nearly related species, of which we have had a bulb growing in a border in our garden these three years, where it thrives well, but has not yet flowered.

It will be some time before the present species becomes common in our collections, except more seeds or bulbs of it are introduced from abroad; it will also require more than ordinary care to preserve it in good health, as it will be very liable to rot, if in too moist a situation; we would recommend a dry border of light sandy soil, where the wet passes off readily.



1871. 26

Put by R. Brown. June 1879

Waldell & Co

CINERARIA aurantiaca.

Orange-coloured Cineraria.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Subordo. V. JACOBÆÆ. *Kth. synops.* 2. p. 440.

CINERARIA. *Involucrum* profunde multipartitum, ecalyculatum; laciniis æqualibus. *Receptaculum* nudum. *Flosculi* disci tubulosi, hermaphroditi; *radii* ligulati feminei. *Antheræ* basi nudæ. *Pappus* pilosus, sessilis.—*Frutices aut herbæ alternifoliæ.* *Flores terminales.* *Kth. synops.* 2. p. 458.

** *Herbaceæ.* *Pedunculis multifloris, Foliis indivisis.*

C. aurantiaca, caule simplici sublanato, foliis radicalibus ellipticis repando-dentatis in petiolum decurrentibus, caulinis lanceolatis integerrimis, corymbo paucifloro, involucris foliolis apice sphacelatis. *Cineraria aurantiaca.* *Willden. sp. pl.* 3. p. 2081. *Enum.* 2. p. 893. *Pers. syn.* 2. p. 440. *Botan. magaz.* 2262. *Lodd. bot. cab.* 325. *Link enum.* 2. p. 334. *Spreng. syst.* 3. p. 549. *Swt. hort. brit.* p. 232.

Stem, leaves, peduncles, and calyx, clothed with long white wool, appearing as if laid on in flakes. *Stem* in our plant about a foot in height, simple, erect, furrowed. *Leaves* variable: lower ones elliptic or ovate, obtuse, decurrent down the petiole, repandly toothed, the teeth very small, dark-coloured, underneath strongly pennately nerved, upper part of the nerves branched: upper leaves sessile, lanceolate, more or less acute, entire, the margins slightly reflexed, decurrent down the stems. *Flowers* terminating the stem in a more or less flowered corymbus, which in our specimen was 11-flowered, at first of a bright orangy brown, changing to a dark orange, afterwards becoming golden yellow, orange-coloured underneath, very sweet-scented. *Peduncles* from one to three inches long, cylindrical. *Involucrum* bell-shaped, one-leaved, divided into numerous narrow linear laciniæ, nearly equal in size and length, their points acute, spreading, purplish, giving the appearance

of being dead or sphacelate. *Receptacle* naked, dotted, glossy. *Rays* about 16, ligulate, spreading, 4-nerved, 3-toothed at the point, tubular at the base, bearing a style and perfect seed, but no stamens. *Florets of the disk* tubular, dilated towards the mouth, 5-toothed, the teeth of a brown orange colour. *Stamens* 5, inserted in the tube: the filaments distinct; *anthers* all connected into a tube, naked at the base. *Style* smooth, exerted beyond the stamens. *Stigma* bifid, dilated, spreading. *Seed* hairy, terminated by a pappus of numerous long rough hairs.

This very handsome Alpine plant is a native of Switzerland, and is very liable to rot in Winter, in this country, except grown in rock-work, where the wet does not stay long to injure it; if grown in the open borders, it will require to be planted in a light sandy soil; and when there is a continuance of rain or damp weather, it will be necessary to cover it with a pot or some other covering to keep off a part of the moisture; but it must be left exposed when the weather is favourable; or it may be grown in pots in a light sandy soil, it can then be protected in frames, but it must be always exposed when the weather is favourable: dry frost is also very injurious to it, but if covered with snow it will take no harm.

Our drawing was made, last Summer, from fine plants in full bloom at the Nursery of Mr. Colvill, where they were raised from seeds received from the late Mr. Schleicher; it is desirable for its fragrance as well as beauty.



1. Part of the Involucrum, showing the length of the segments, inclosing the naked dotted Receptacle. 2. Ray, with the seed at the base. 3. Floret of the disk, showing the five teeth, with the seed at the base. 4. The 5 Stamens, the anthers united together, the filaments distinct. 5. Seed, terminated by the Style and bifid Stigma.

*I. ensata*

Pub. by H. Sweet July 1875

257. 2

CUMMINGIA campanulata.

Hyacinth-flowered Cummingia.

Natural Order. ASPHODELEÆ. *Brown prodr.* 1. p. 274.

CUMMINGIA. *Perianthium* semisuperum! campanulatum, 6-fidum, deciduum. *Antheræ* basi emarginatâ filamentis brevissimis dilatatis insertæ, conniventes. *Ovarium* triloculare: *ovulis* indefinitis. *Stigma* punctum pruinosum. *Capsula* trilocularis, loculicido-dehiscens: *loculis* oligospermis. *D. Don Mss.*

Descr. *Perianthium* semisuperum, monophyllum, campanulatum, coloratum, basi circumscissâ deciduum: *limbo* 6-fido, patente, æstivatione imbricatâ: *laciniis* obtusis, duplici ordine dispositis; *interioribus* latoribus, substantiâ etiam tenuioribus, margine pilis simplicibus (nec articulatis) præsertim basin versus fimbriatis; *exterioribus* omninò glabris. *Stamina* 6, inclusa, basi perianthii inserta: *filamenta* brevissima, basi dilatâ obcuneata, tenuissimè membranacea: *antheræ* in conum conniventi-approximatæ, basi insertæ, ibique obtusè emarginatæ, tunc sagittato-lanceolatæ, compresso-tetragonæ, biloculares, apice membranaceo-acuminatæ, bidentatæ (dentibus divaricatis) interiùs apicem infra foramine amplo obliquè oblongo domum hiantes: *loculis* parallelis, bivalves, infernè sensim dilatatis: *valvulis* margine involutis, polline pulvereo intùs obrutis, loculos perindè geminos mentientibus, et ergo *antheræ* pseudoquadri-loculares. *Ovarium* apici pedicelli semiimmersum! (*perianthium* hinc certè cum apice pedicelli articulatum) triloculare: *ovulis* indefinitis (18-20) duplici serie angulo interiori loculorum insertis, adscendentibus. *Stylus* rectus, subulatus, glaber, *stamina* longitudine excedens, vasorum fasciculis tribus manifestis, quorum singulo ovarii septo perpendiculari. *Stigma* punctum truncatum, pruinosum. *Capsula* (immaturam tantùm vidi) globosa, semiinfera, trilocularis, loculicido-dehiscens: *loculis* abortu oligospermis. *Dissepimenta* crassiuscula, quasi e duplici laminâ constituta, intervallo angustissimo sejuncta, ab extensione parietis interioris capsulæ ortum ducentia, hinc capsula perindè tricoeca. *Semina* ovoidea; *testa* crustacæ, lævi.—Herba (Chilensis) *elegans*, *Hyacinthi facie*. *Rhizoma bulbo-tuber.* *Canlis spithamæus* v. *pedalis, erectus, apice paniculati ramosus.* *Folia linearia, canaliculata, apice subulata, nervis aliquot manifestis peragrata;* *caulina basi semivaginata.* *Flores laxè paniculati, nutantes, pulcherrimi.* *Pedicelli filiformes, simplices, non articulati.* *Bractæ ovato-lanceolatæ, acuminatæ, scariosæ, nervosæ.* *Perianthium semipollicare, violaceum, fauce pallidiore, maculisque atropurpureis notatâ.* *D. Don Mss.*

Cummingia campanulata. *D. Don Mss.*

Conanthera? *campanulata.* *Hooker exot. flor.* 3. t. 214. *Spreng. syst.*

4. par. 2. p. 136.

Conanthera bifolia. *Sims Botan. magaz.* 2496. non *Flor. Peruv.*

“ This interesting plant, whose elegant blue flowers, emulating those of the Hyacinth, justly entitle it to a place in every collection, is a native of Chile, and was introduced to this country a few

years ago. It blossomed for the first time in Europe, in the late Mr. Walker's choice collection, at Arno's Grove, near Southgate, and was shortly afterwards published in the Botanical Magazine, under the name of *Conanthera bifolia*, it being then regarded as identical with the plant of the Flora Peruviana. Had it not been for the corroboration afforded by the excellent figure and description of Feuillée, there might have been reason to question the accuracy of the representation given in the Flora Peruviana; as a hexaphyllous perianthium, with an inferior ovarium, was a structure scarcely to be looked for in this class of plants; but specimens of the true *Conanthera bifolia*, lately collected near Santiago in Chile by my friend Mr. Caldeleugh, and now deposited in the Lambertian Herbarium, remove all doubt as to the distinction of the two plants, and readily explain the apparently paradoxical structure above mentioned. In the greater part of *ASPHODELEÆ* the *pedicellus* is articulated, and in some genera this articulation is placed immediately under the perianthium, so as to be easily overlooked, but by an experienced observer. In *Conanthera* and *Cummingia*, from the ovarium being immersed in the dilated apex of the pedicellus, the articulation, although present, is still less apparent, being situated near the summit of the ovarium, where the base of the perianthium separates spontaneously. The anthers are composed of four valves with involute margins, and when cut across they appear four-celled; the dorsal portion extends considerably beyond the extremity of the valves, forming with them an oblong, oblique, aperture, through which the pollen is emitted, for, although the valves are free along their whole length, the pollen is clearly not emitted laterally. The stigma is truncate, and not acute. The capsule internally from the separation of the septa, is really tripartible, and although polyspermous, it may be compared to the fruit of *Euphorbia*, wherein the septa are also distinct."

"*Conanthera* differs from *Cummingia*, nearly as *Hyacinthus* does from *Scilla*, in having a deeply divided perianthium: the segments, however, are not, as in *Scilla*, separate quite to the base, but are connected together by the dilated filaments. The comparison between the flowers of *Conanthera*, from their reflexed segments and converging anthers, and those of *Dodecatheon*, is more apparent, than between them and those of *Solanum*. The genus *Ecceandria* of Ortega, referred by Persoon to *Conanthera*, is widely removed from it by having a free capsule with polyspermous cells, filaments elongated and glandular, anthers simple and obtuse at the apex, and the pedicles jointed at the middle, as in the normal group of *ASPHODELEÆ*."

"The genus is named in compliment to Lady Gordon Cumming, whose attachment to the science of Botany justly entitles her to this distinction."

For the above account we are indebted to Mr. David Don. Our drawing was made from a plant that flowered in April last, in the choice collection of A. Arcedeckne, Esq. of Glevering Hall, near Wickham Market, Suffolk. It will doubtless succeed well with the treatment of *Tigridia pavonia*, and other rather tender bulbs, to be planted about six inches deep in the ground, and to be taken up in Winter, or to be covered with straw or mats.



1. The 6 Stamens, inserted in the tube of the Perianthium, the tube spread open and divested of its upper part, showing the short dilated filaments, and long anthers that are bifid at the points. 2. The half inferior Ovarium, terminated by the Style and simple Stigma.



T. Smith, Del.

Pub. by R. S. W. & Co. July 1884

W. & A. G.

SALPIGLÓSSIS picta.

Painted Salpiglossis.

Natural Order. SOLANÆÆ. *Brown prodr.* 1. p. 443.

Sect. II. Corolla non plicata, regularis. Stamina didynama. Embryo leviter arcuatus. Pericarpium capsulare v. baccatum.

SALPIGLOSSIS. Supra fol. 231.

S. picta, glanduloso-piloso, caule paniculato-ramoso; ramis dichotomis, foliis inferioribus ovato-oblongis obtusis rugosis sinuato-dentatis: superioribus lanceolatis acutiusculis undulatis integerrimis, filamentis undique glanduloso-pilosis.

Herbaceous. *Stems* erect, two or three feet high, thickly clothed with short spreading hairs, that are tipped with small glands, the upper part paniculately branched, the branches forked. *Leaves* at the root oblongly ovate, obtuse, very rugged, sinuate with broad rounded teeth; those on the stem with short footstalks; lanceolate, scarcely acute, entire, undulate, strongly nerved underneath, thickly clothed with short hairs on both sides: upper leaves smaller, narrower and linear. *Flowers* racemed, in a terminal panicle, on longish peduncles, which are lateral, or in the forks of the branches. *Bractes* lanceolately-linear, bluntish, thickly covered with hairs that are tipped with small glands, as are the peduncles, calyx, and outside of the corolla, the glands broad towards the base and tapering to a point. *Peduncles* cylindrical, three or four times the length of the bractes. *Calyx* 5-angular, 5-cleft, the angles acute, of a dark colour, two upper segments rather longest. *Corolla* large, funnel-form, the tube slender to the base, becoming bell-shaped and inflated about the middle, where the stamens are inserted; limb spreading, 5-lobed, the upper one nearly double the size of the others, the lobes each two-lobed, pale cream-coloured: the tube elegantly marked on the inside on the two lower segments with a bright bluish purple, that extends more or less in veins over the segments, becoming stronger in colour and more extended after the expansion of the flowers: the three upper segments marked at the base and down the tube with a bright golden yellow, which is also strongly veined and edged with dark purple; nerves on the outside of the tube strong and much branched, the colour

showing through, but not so bright as on the inside. *Stamens* 5, inserted in the tube, where it becomes inflated, and decurrent down it, four fertile and one barren; the four fertile ones didynamous, or two shorter than the others; the barren one inserted between the two longest, and bearing the rudiment of an anther: *filaments* dark purple, clothed their whole length with short hairs, that are all tipped with small black glands: *anthers* two-lobed, those on the short filaments double the size of the others. *Ovary* smooth, conical, terminated by a smooth dark purple Style, that is cylindrical below, and widening upwards, where it becomes flattened and tongue-shaped, but slightly keeled on both sides. *Stigma* truncate, transverse, and channelled through the centre.

Our drawing of this magnificent plant, was made in May last, from fine specimens that flowered in the collection of A. B. Lambert, Esq. at Boyton; and we are informed by Mr. Lambert that it still continues to flower, and is ripening its seeds; the plants were brought from Scotland last year by Mr. D. Don, who received them from P. Neill, Esq. of Edinburgh, in whose garden they were raised from seeds that had been sent from Chile; several other species were raised by him at the same time, one of which flowered last year, and is figured by Dr. Hooker in the Botanical Magazine, by the name of *S. atropurpurea*; and *S. straminea* flowered at Mr. Lambert's at the same time as the present. We believe they will prove perennial, and may be cultivated in the open border with a little protection in Winter, where they thrive well in the common garden soil. A plant sent to us by Mr. Tate, of the Sloane Street Nursery, last Autumn, marked purple *Salpiglossis*, we planted in a border of our garden; this we covered through the Winter when frosty, by placing a garden pot over it, and left it exposed when there was no frost; it succeeded very well, and is now growing very strong, and covered with flower buds. It is readily increased by young cuttings, planted under a hand-glass, or even in a shady border without glass.

SALPIGLOSSIS is derived from *σαλπιγγος*, a trumpet, and *γλωσσος*, a tongue, the flowers being trumpet-shaped, with a tongue-shaped style.



1. Calyx, clothed with glandular hairs. 2. Tube of the Corolla, showing the insertion of the Stamens, the barren Stamen between the two longest of the fertile ones, and those two are considerably less than the shorter ones. 3. Ovary, terminated by the Style and transverse Stigma.



MUSCARI pállens.

Pale Muscari.

Natural Order. ASPHODELEÆ. *Brown prodr.* 274.
MUSCARI. *Supra fol.* 15.

M. pállens, foliis linearibus acutis glaucis glaberrimis, racemo stricto pyramidato, perianthiis congestis inflato-cylindricis : fauce aperta.

Muscari pállens. *Fisch. catal. gorenk.* 1812. p. 9. *Link. enum.* 1. p. 331. *Spreng. syst.* 2. p. 66. *Swt. hort. brit.* p. 419.

Hyacinthus pállens. *Marsch. Bieb. taur. cauc.* 1. p. 263.—3. p. 273.

Root bulbous, readily increasing by its offsets. *Leaves* several, quite smooth, glaucescent, linear, acute, channelled on the inner side, striated at the back with numerous longitudinal lines, at first erect, but as they lengthen out becoming more or less bent by their weight. *Scapes* erect, smooth and glossy, more or less tinged with red or purple, particularly on those with the bluest flowers, terminated with a short pyramidal raceme of flowers, very much crowded or squeezed together. *Flowers* nodding, very pale blue, or white tinged with blue, exceedingly fragrant. *Bractes* small, scale-like, white, 2 or 3 at the base of the pedicle. *Pedicles* very short, white or pale blue. *Perianthium* tubular, nearly cylindrical, but a little inflated, the mouth spreading widely open, not nearly closed as in *M. botryoides* : slightly divided into six short, broadish, rounded segments, at the mouth, that are a little reflexed. *Stamens* 6, inserted in the tube : *filaments* short, smooth, slender towards the point, and inserted into the back of the anthers : *anthers* purple, two-lobed. *Ovarium* three-sided, glaucescent. *Style* short, smooth. *Stigma* a simple blunt point.

A very pretty spring-flowering bulb, native of Tauria and Caucasus, and flowering in our borders in April and

May: it is of late introduction, and we believe was first introduced by Mr. W. Anderson, Curator of the Apothecaries' Company's Garden at Chelsea, who received it from Dr. Fischer. It is delightfully fragrant as well as pretty, and two or three flowering stems are produced from the same bulb in succession. It is nearest related to *M. botryoides*, but its flowers are more cylindrical, much more expanded at the mouth, and they are also more crowded together. A light sandy soil in the open border suits it best, to be planted from four to six inches deep, according to the size of the bulbs, which are quite hardy, and are readily increased by offsets from the roots: they may also be grown in pots, which can be removed into the house when in flower, for the sake of their fragrance, but the flowers will not be so fine in pots, as those in the open ground.

Our drawing was made from plants at the Chelsea Botanic Garden this Spring.

MUSCARI of Tournefort is a name derived from the Latin, and signifies, the top of a herb, wherein the seed lieth: it is also used for a fly-flap, to kill or drive away flies, the head of flowers on the simple stem not being very unlike something of that kind.



1. Perianthium spread open, to show the insertion of the Stamens. 2. One of the Stamens detached. 3. Pedicle, showing the small scale-like bractes at its base, the ovary seated on it divested of the perianthium, and terminated by the Style and simple blunt Stigma.



MAGNOLIA Soulangeana.

Soulange-Bodin's Magnolia.

Natural Order. MAGNOLIACEÆ. *DC. syst.* 1. p. 439.

MAGNOLIA. *Calyx* 3-sepalus, deciduus, interdum nullus (sepalis forsitan omnino petaloideis et pro petalis externis habitis). *Petala* 6-12, bi-tri-quadruplici ordine disposita, decidua. *Stamina* numerosa. *Carpella* spicatum confertèque disposita, angulo externo dehiscentia, 1-2-sperma, persistentia. *Semina* baccata, subcordata, funiculi umbilicalis longissimi ope extra capsulam pendula.—*Arbores pulcherrimæ, folia integra; stipulæ 2 oppositæ, folia juniora tegentes, in gemmam acuminatam-convoluta, cito caducæ; flores ad apices ramorum terminales, solitarii, breviter pedunculati; bractea unica lateraliter fissæ aut duæ oppositæ alabastrum includentes mox caducæ et lineam circularem super pediculum, ut stipulæ secus ramulos, relinquentes.* *DC. syst.* 1. p. 449—450. et *Prodr.* 1. p. 79.

Sect. II. GWILLIMIA. Species Asiaticæ, bracteis sæpius duabus oppositis alabastrum includentibus, antheris introrsis, ovariis subdistantibus. *DC. syst.* 1. p. 455.

M. Soulangeana, foliis deciduis obovatis abrupte acuminatis reticulato-venosis utrinque pubescentibus, floribus erectis 3-sepalis, petalis 6 obovatis, stylis subreflexis.

Magnolia Soulangeana. *Ann. soc. hort. par. 2. ex. Soul. Bod.*

A stout, upright, branching, deciduous Shrub : *branches* erect or ascending, when young pubescent, afterwards becoming smooth and glossy, and clothed with a brown bark, that is spotted here and there irregularly. *Leaves* deciduous, appearing about the same time as the flowers, obovate, attenuated towards the base, and terminating rather abruptly in a taper-point, strongly nerved underneath, the midrib pinnately nerved with nearly horizontal nerves, that are again branched, so that the leaves are reticulately veined, thickly clothed with short hairs on both sides, particularly on the veins, but becoming smoother by age. *Bractes* 3, deciduous, enclosing the flower-bud before expansion, ovate or ovately lanceolate, concave and brown on the inner side, the outside densely clothed or matted with white hairs, that gives them a grey appearance. *Calyx* of 3 sepals, petal-like, but smaller than the petals, oblong, rounded at the

points, white, slightly tinged with purple at the back. *Petals* 6, in two series, large and spreading when the flower is expanded, obovate, rounded at the point, or sometimes slightly retuse, strongly veined with longitudinal veins, inside white, the outside more or less tinged with purple, strongest when most exposed to the sun, and when the flower is first expanded, it afterwards becomes lighter. *Stamens* numerous, surrounding the carpella in several series: *filaments* very short and succulent, pale purple: *anthers* linear, attached by the base to the filaments. *Carpella* in a long slender spike. *Ovariums* each one-styled. *Style* smooth, of a greenish white, a little recurved. *Stigma* simple, acute.

This handsome plant is a hybrid production, and was first raised in the collection of the Chevalier Soulangue-Bodin, at his establishment, Jardin de Fromont, near Paris, from the seed of *M. conspicua* (*M. Yulan*. DC.) and from a plant sent by him to us, and which we planted in our garden by the side of a wall in a southern aspect, where it produced its handsome flowers, our drawing was made the beginning of May last; the large leaf was procured from a plant at the Nursery of Mr. Lee, at Hammersmith, as those on our plant were not fully grown; its other parent was supposed to be *M. obovata* var. *purpurea*, but the recurved styles prove that to be erroneous, and determine it to have been *M. Kobus* (the *M. gracilis* of Salisbury), which is also a purple-flowered species; we are informed that most of the principal Nurserymen about London are now in possession of it; and it will be a great acquisition to our gardens, thriving well in a sheltered situation in the open air, but better against a wall, and may be increased by layers, or by inarching or budding on the commoner sorts.

The generic name was given by Linnæus, to immortalize the merits of P. Magnol, Professor of Botany at Montpellier, and Author of several Botanical works.



1. One of the large leaves. 2. Bud expanding, to show the deciduous bracts that are not yet dropped off.



LUPINUS tomentosus.

Woolly various-coloured Lupine.

Natural Order. LEGUMINOSÆ. Juss. gen. 345.

Subordo I. PAPILIONACEÆ.—Tribus V. PHASEOLEÆ. *Supra* fol. 142.

LUPINUS. *Calyx* profundè bilabiatus. *Corolla* papilionacea, vexillo lateribus reflexis, carinâ acuminatâ. *Stamina* monadelphia, vaginâ integrâ, antheris 5 parvis subrotundioribus præcocioribus, 5 oblongis serioribus. *Stylus* filiformis. *Stigma* terminale subrotundum barbatum. *Legumen* coriaceum oblongum compressum obliquè torulosum. *Cotyledones* crassæ per germinibus in folia conversæ.—Herbæ aut suffrutices. *Stipulæ* petiolo adnatæ. *Folia sæpius foliolis 5-9 digitatis constantia, rarius simplicia.* *Foliola antè explicationem aut per somnum complicata.* *Pedunculi oppositifolii terminales.* *Flores racemoso-spicati alterni aut verticillati pedicellati aut sessiles.* *Bractea sub pedicellis.* *Bracteolæ 2 lateraliter calyci adnatæ caducæ aut nullæ.* DC. prodr. 2. p. 406-407.

L. tomentosus, suffruticosus totus sericeo-tomentosus, floribus verticillatis pedicellatis bracteolatis, calycis labio utroque subintegro: foliolis oblongis obtusiusculis mucronulatis basi attenuatis, ovario hirsutissimo.

Lupinus tomentosus. DC. prodr. v. 2. p. 409.

Stem suffruticose, or shrubby towards the base, very much branched: *branches* erect, thickly clothed with a short silky tomentum. *Leaves* digitate, consisting of from 8 to 10 leaflets, densely clothed with a short silky tomentum: *leaflets* oblong, attenuated to the base, when young acute, but as they become older bluntish, with a short mucro, from an inch to an inch and a half long, and the broadest nearly half an inch broad in the widest part, regularly spreading. *Petioles* broadest at the base, gradually narrowing upwards, the upper part nearly cylindrical, but at the base flattened on the upper side, thickly clothed with short silky wool, as are the stipules, pedicles, bractes, and calyx. *Stipules* narrowly linear, acute, bearded at the points, attached to the base of the petioles. *Flowers* verticillate, in long terminal racemes, at first straw-colour, tinged and striped with light blue, afterwards changing to a bluish purple, becoming darker by age. *Bractes* deciduous, narrowly linear, acute, longer than the flowers, when they are in the bud state. *Pedicles* cylindrical, slightly nodding, a little longer than the calyx. *Calyx* 2-lipped, the lips concave inwards; lower one entire, keeled below: upper one slightly notched at the point, and there fimbriate. *Vexillum* broad, nearly round, but slightly

notched at the point, sharply keeled at the back and channelled on the upper side, spotted on each side of the channel with several small blue specks, and a large blue spot on each side near the base. *Wings* about the length of the vexillum, ovate, concave inwards, bluntly rounded, striped more or less with blue lines, that branch considerably. *Keel* acute, with a long sharp dark purple point, fringed longitudinally with long white hairs on the inner side, slightly eared on each side at the base, and bearing a slender unguis. *Stamens* 10, all joined into a tube at the base: *anthers* 5, short and nearly round; the other 5, much larger and oblong. *Pod* densely clothed with long white hair. *Style* ascending, smooth and glossy. *Stigma* small, capitate, bearded.

This fine plant is a native of Peru; and from the kindness of A. B. Lambert, Esq. we have had an opportunity of comparing our specimens with those collected by Ruiz and Pavon, now preserved in that gentleman's Herbarium, with which they agree precisely; the plant is woody at the base, and would make a sort of shrub, if a little protection were allowed it in Winter; to be planted against a wall in a southern aspect, and to be covered with a mat in severe frost, would suit it very well. It thrives well in the common garden soil; and if pretty rich, the stronger it will grow; it may either be increased by cuttings, that root readily, under a hand-glass; or by seeds, which ripen plentifully.

Our drawing was made this Summer from a strong plant growing in the open border, with above a hundred spikes of flowers open on it at once, at Mr. Colvill's Nursery, at Roehampton, where every thing appears to be thriving with the greatest luxuriance.

We had received it the Summer before, from the collection of Robert Barclay, Esq. of Bury Hill, from Messrs. Young's Nursery, at Epsom, Mr. Miller's, of Bristol, and Mr. Wheeler's, of Warminster, but the flowers always dropped off in carriage: the two varieties at the bottom of the plate, were from the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, where it is cultivated by the name of *L. peruvianus*.

Lupinus is derived from the Latin, and signifies a kind of pulse of bitter and harsh taste.

◆◆◆

1. A bluer variety. 2. A lighter variety. 3. Calyx. 4. Vexillum. 5. The two Wings. 6. Keel, showing the fringe on the upper edge. 7. The 10 Stamens, the 5 short ones with oblong anthers, the 5 long ones with round ones. 8. The hairy Ovarium, terminated by the smooth Style and small capitate fringed Stigma.



F. B. Smith, Del.

Pub. by R. F. Ward, Aug. 1920

Windsor, Ill.

NICOTIANA noctiflora.

Night-flowering Tobacco.

Natural Order. SOLANEE. Brown prodr. 1. p. 443.

NICOTIANA. Supra fol. 107.

N. noctiflora, glanduloso-viscosa, foliis petiolatis oblongo-lanceolatis acutis undulato-crispis, floribus paniculatis hypocrateriformibus, corollæ tubo cylindraceo calyce multoties longiore; limbi laciniis æqualibus obcordatis emarginatis.

Nicotiana noctiflora. Hooker Botan. magaz. 2785.

Apparently perennial, viscous or clammy, and thickly clothed all over with short spreading hairs. *Stems* erect, two to three feet high, branching, strong and disagreeably scented. *Leaves* oblongly lanceolate, acute, tapering to the base, where they end in a longish footstalk, very much waved or curled near the margin; lower ones broadest, becoming gradually narrower upwards. *Petioles* slightly winged on each side, flattened above, and convex below. *Flowers* in terminal panicles, white, or slightly tinged at the back with a purplish green, slightly drooping, or leaning forwards, sweet-scented. *Bractes* small, linear, acute. *Pedicles* short, cylindrical, slightly nodding. *Calyx* tubular, 5-cleft; segments short, narrowly lanceolate, acute, keeled at the back, the keel extending down the tube, between which it is transparent. *Corolla* tubular, salver-shaped; tube cylindrical, nearly equal, but slenderer towards the base, nearly three times the length of the calyx, greenish white, pitted in a little in five small hollows just above the insertion of the stamens, and a little way above the calyx; limb spreading, plaited, slightly 5-cleft, the segments obcordate, rounded, terminated in a deepish notch, and channelled down the centre on the upper side, white, or tinged with a greenish purple at the back. *Stamens* 5, of various lengths, inserted in the tube and decurrent down it; two of them generally exserted: *filaments* slender, densely hairy at the base, and

bent round like a bow, a little above their insertion, smooth, and tapering upwards, inserted in the back of the anthers : *anthers* two-lobed, the lobes thick and blunt. *Ovarium* pyramidal, smooth and glossy, seated on an orange-coloured receptacle. *Style* smooth, slightly exserted. *Stigma* green, capitate, or a little clavate, furrowed through the centre, so as to be slightly two-lobed.

Our drawing was made from fine specimens sent to us by A. B. Lambert, Esq. in whose splendid collection at Boyton, it flowered in June last, and is likely to continue in bloom nearly all the Summer. It was raised from seeds received from Chile, last year, and is a great acquisition to our gardens, as its flowers are very sweet-scented as well as beautiful, the flowers expanding most in the evening, but ours continued more or less expanded all the day ; from its appearance, we believe it will prove perennial, if protected a little in Winter, the same as *N. suaveolens*, (*N. undulata* of Ventenat,) a New Holland species, to which the present plant is somewhat related, but is sufficiently distinct ; if sown in a little heat early in Spring, or in a warm border, it will flower the same year, and may then be treated as an annual ; but if not in a warm situation, it will scarcely flower in time to ripen its seeds, so that it would be well to protect a few plants of it in frames, or in the Greenhouse, in pots, through the Winter ; or if planted in a warm border, and covered with a garden pot in severe frost, or a little hay or straw, it will most probably succeed very well, in the same manner as *Petunia nyctaginiflora*, which has stood with us three Winters, in a warm border, with no other protection than a mat thrown up against it when the frost has been severe, and it has never had a single leaf injured, and is covered with its handsome white flowers from May till November, hundreds being open on it every day ; we have succeeded well in protecting several rather tender plants by placing a pot over them in frosty weather ; and where the plants are low, we stuff the pots with hay.

The genus was named by Tournefort, after Jean Nicot, Ambassador from France to Portugal, from whence he brought the Tobacco plant, in 1560.



1. Calyx, showing its transparent sides between the angles. 2. Tube of the Corolla spread open, showing the insertion of the 5 Stamens. 3. Ovarium, terminated by the Style and Stigma.



L. ...

Painted by B. ...

...

RHODODENDRON Gowenianum.

Mr. Gowen's Rhododendron.

Natural Order. ERICÆE. D. Don prodr. fl. nepal. p. 148.

Subordo III. RHODORACEÆ. D. Don loc. cit. p. 152.

RHODODENDRON. Supra fol. 250.

R. Gowenianum, ramis tomentoso-pubescentibus, foliis sempervirentibus aut subdeciduis oblongis acutis margine subrevolutis: junioribus pubescentibus: adultis glabris apice recurvis, floribus racemoso-corymbosis, tubo corollæ laciniis paulo brevioribus.

A handsome smallish branching Shrub: *branches* spreading, ascendant, when young thickly clothed with short woolly pubescence. *Leaves* evergreen, or scarcely deciduous, elliptically oblong or lanceolate, acute, entire, pennately nerved, the margins slightly rolled back; when young pubescent on both sides, but becoming smooth and glossy when old, of a dark green on the upper side, and pale underneath, reticulately veined, the points more or less recurved, or revolute. *Petioles* short, a little flattened on the upper side and rounded on the lower, pubescent. *Flowers* in a terminal raceme-like corymb, 17 in our specimen, of a delicate light purple. *Bractes* ovate, taper-pointed, concave, soon turning brown, and dropping off. *Peduncles* cylindrical, clothed with a woolly pubescence. *Calyx* 5-parted, nearly to the base, pubescent: segments linear, obtuse, fringed with glandular hairs, the points very slightly reflexed. *Corolla* funnel-form, pubescent outside: *tube* 5-angular, widening upwards, scarcely so long as the segments of the limb. *Limb* 5-cleft, the segments distinctly spreading, narrowly ovate, scarcely acute, but pointed, channelled on the upper side and bluntly keeled underneath, with here and there a faint brownish spot on some of the segments. *Stamens* generally 9, but sometimes 10, inserted in the base of the calyx. *Filaments* ascending, unequal in length, slender, thickly clothed with long spreading hairs more than half their length, the upper part smooth, inserted in the

back of the anthers. *Ovarium* 5-angular, clothed with a silky tomentum. *Style* smooth, ascending, longer than the stamens. *Stigma* capitate, rugose, viscous.

The present singular and handsome plant is of hybrid origin, and was raised from seeds in the superb collection of American plants at the Earl of Carnarvon's, at Highclere; the seed was procured from *Azalea nudiflora* or *viscosa*, that Mr. J. R. Gowen had fertilized with the pollen of a hybrid *Rhododendron*, between *R. ponticum* and *R. catawbiense*; and we are informed by that gentleman, that there is in the same collection "nearly a hundred seedlings, very healthy plants, two years old: they are all from Azaleas; from different varieties of *A. viscosa* and *nudiflora*, are all free growing plants, evergreen in ordinary Winters, but in severe frost showing a tendency to shed their leaves more or less: they were procured by fertilizing the Azaleas with the pollen of *Rhododendrons*, that are intermediate between *R. ponticum* and *catawbiense*." In the same collection are numerous hybrid Azaleas, between most of the different species and varieties, and also plants from the hybrid *R. catawbiense* and *ponticum*, with *R. arboreum*, so that in the course of a few years we may expect this tribe of plants to rival if not exceed all others.

In the Earl of Liverpool's collection, at Coombe-wood, there are numerous plants of hybrid production, between *R. arboreum* and *R. ponticum*, also between the former and *Azalea pontica* and other sorts; and in Mr. Russell's Nursery, at Battersea, there are others between *R. arboreum* and *R. catawbiense*. By the different species of *Rhododendron*, *Azalea*, and *Rhodora*, mixing altogether so freely, there can be no reason for keeping them apart as distinct genera. They all succeed well in peat soil, or light sandy loam.

Our drawing was made from a fine specimen kindly sent to us by J. R. Gowen, Esq. the beginning of last June, and in compliment to him we have named the present subject.

The generic name is derived from *ρόδον*, a rose, and *δένδρον*, a tree, from the plants generally bearing rosy-coloured flowers.



1. Bracte. 2. Calyx, Style, and Stigma. 3. The 9 Stamens, which in some flowers are extended to 10.



PIPTANTHUS nepalensis.

Nepaul Piptanthus.

Natural Order. LEGUMINOSÆ. *DC. prodr.* 2. p. 93.

Subordo I. *PAPILIONACEÆ*.—Tribus I. *SOPHOREÆ*. Corolla papilionacea. Stamina libera. Legumen continuum nec articulatum. Cotyledones planæ foliaceæ.—Tribus satis naturalis, accedens ad *Loteas* mediantibus et *Ammodendro* et *Astragalis* *chronopodiis*, ad *Hedysareas* mediante *Adesmiâ*, quibus sunt stamina libera et *Sophoræ* sectio secundâ quæ staminibus gaudet subcoalitis. *DC. prodr.* 2. p. 94.

PIPTANTHUS. *Calyx* campanulatus 5-fidus bilabiatus posticè convexus deciduus; basi attenuatus persistens. *Petala* inæqualia, vexillo lateribus subincurvis, alis apice involutis, carinâ monopetalâ obtusâ apice bifidâ. *Stamina* 10, decidua. *Legumen* compressum lineare stipitatum polyspermum.—Frutices. Folia trifoliolata. *Stipulæ* magnæ cordato-ovatæ, basi coadunatæ, caducæ. Racemi terminales; floribus bracteatis verticillatis flavis, bracteis oratis deciduis.

P. nepalensis, foliolis elliptico-lanceolatis utrinque attenuatis subsericeis, racemis terminalibus villosis, floribus ternato-verticillatis. *Baptisia nepalensis*. *Hooker exot. flor.* 131. *Spreng. syst. v. 4. pars. 2.* p. 171.

Thermopsis napaulensis. *DC. in ann. sc. nat.* 4. p. 98. *Prodr.* v. 2. p. 99.

Thermopsis laburnifolia. *D. Don prodr. flor. nepal.* p. 239-240. *Swt. hort. brit.* p. 107.

Thermia laburnifolia. *Spreng. syst. v. 4. par. 2.* p. 171.

A handsome, upright, branching, evergreen Shrub: *branches* bright green, nearly cylindrical, angular while young, clothed with a silky pubescence. *Leaves* petiolate, ternate, bright green, soft to the touch, clothed on both sides with a thin silky pubescence: leaflets oblong or elliptically lanceolate, acute, tapering to both ends, pennately veined, the veins branched; young leaves folded inwards a little, and more pubescent. *Petioles* channelled on the upper side and rounded on the lower, pubescent. *Stipules* very large, connected at the base, cordately ovate, cuspidate, concave below, the points sometimes a little reflexed, thickly clothed with short soft villous hairs, deciduous, or soon turning yellow and dropping off. *Racemes* terminating the young branches, in our specimens many-flowered, the stem between the whorls of flowers three-sided, densely villous. *Flowers* pale yellow, three in each whorl, dying off rather a deeper yellow. *Bracte* large, ovate, acute, undulate, concave inwards, thickly clothed with a soft pubescence, one at the base of each peduncle, and nearly equalling it in length. *Peduncles* thickly clothed with short villous hairs.

Calyx campanulate, two-lipped, 5-cleft, a little convex at the back, thickly clothed with short woolly hairs, deciduous and dropping off at the thickened part, with the petals and stamens, the lower part persistent and tapering downwards, including the lower part of the pedicle of the ovarium; upper lip bifid, the lower one trifid, the segments spreading, the lowermost generally reflexed. *Vexillum* large, obcordate, reflexed, channelled through the centre, striated with numerous small lines, keeled at the back, the margins slightly folded inwards. *Wings* shorter than the vexillum, semicordate at the base and eared on one side, the ear curved inwards so as to enclose the base of the keel, the other side producing a slender unguis. *Keel* large and blunt, 1-leaved, cloven at the point, longer than the vexillum, producing a slender unguis on each division, at the base on one side, the other side eared with a broad rounded ear. *Stamens* 10, distinct, falling off with the calyx and corolla: *filaments* smooth, ascending at the points, unequal in length, inserted in the back of the anthers. *Ovary* linear, compressed, stipitate, densely clothed with a close-pressed silky down. *Style* smooth, ascending. *Stigma* a very small inconspicuous head.

Our drawing of this handsome Shrub was made from fine specimens kindly sent to us the beginning of June last, by Robert Barclay, Esq. of Bury Hill, in whose splendid collection it flowered in the open border, where it had stood all the Winter, and where it thrives in the common soil of the garden.

Botanists have considerably disagreed in regard to the genus to which this plant should be referred. Dr. Hooker, in the Exotic Flora, referring it to *Baptisia*; M. Decandolle, and Mr. D. Don, have referred it to *Thermopsis*; the latter, however, doubting the propriety of its being added to that genus. Mr. Lindley considers it a species of *Anagyris*: we have no doubt in ourselves, but it should constitute a genus distinct from the whole of these, differing from *Baptisia* in its flat pod, from *Thermopsis* in its deciduous stamens, and from *Anagyris* in the form of its flowers, and difference of pod; and, we believe, from the whole, in its deciduous calyx. We have derived the generic name from *πτωω*, to fall, and *ανθος*, a flower, the flower falling off altogether, calyx, petals, and stamens.



1. Shows the deciduous character of the Calyx. 2. Calyx. 3. Vexillum. 4. The two wings. 5. Keel. 6. The 10 Stamens. 7. The young pod, terminated by the Style and small Stigma.



L. Dimuth. Sc.

Pub. by A. Penzel. Apr. 1812

Wiedenh. A.

ESCHSCHÖLTZIA californica.

Mr. Menzies' Eschscholtzia.

Natural Order. PAPAVERACEÆ.

ESCHSCHOLTZIA. *Pedunculus* in receptaculum tubulosum obconicum apice expansum subsinuato-truncatum terminans. *Calyx* calyptrata, monophylla, ovato-conica membranacea indivisa è margine interiore receptaculo inserta, junior petala fovens circumscissè dehiscens, mox decidua. *Petala* 4 obovata receptaculum inserta. *Stamina* cum petalis inserta, filamentis brevibus imo petalo subadnatis, 6-8 antè petalum quodque; antheris terminalibus linearibus bilocularibus. *Ovarium* liberum elongatum, apice desinens in stigmata 4 elongata, 2 longiora, 2 subabortiva. *Capsula* siliquæformis cylindracea 10-costata 10-striata bivalvis, valvis idè longitudinaliter 5-striatis. *Placentæ* marginales 2, alià cum placentâ alterius valvæ contiguâ. *Semina* parva, globosa extùs reticulata, albuminosa. *Embryo* rectus, radiculâ ad hilum versâ.—Herba habitu *Chelidonii*, *Hypecoi*, *Rœmeriæ*. Folia alterna multifida. Pedunculi oppositifolii aut axillares 1-flori. Flores flavi.

Eschscholtzia californica. Chamisso in *Nees Horæ physicæ berol.* p. 73. t. 15. *DC. prodr.* 3. p. 344. *Lindl. bot. reg.* 1168.

Root perennial, fleshy. *Plant* quite smooth, about a foot high, much branched; *branches* spreading, glaucous, longitudinally striate with numerous transparent lines. *Leaves* alternate and opposite, glaucous, bipinnatifid, the segments multifid, flat, linear, obtuse, and terminated with a sort of callous point; the upper ones not so much divided as the lower ones. *Petioles* slightly winged, channelled on the upper side, and slightly keeled below. *Peduncles* axillary, or opposite to a leaf, long, cylindrical, striate with several transparent lines, and terminated below the flower in a top-shaped, calyx-formed, tubular receptacle, that is truncate, and shallowly sinuate round the edges. *Calyx* 1-leaved, calyptra-like, ovately conical, taper-pointed, parting from the receptacle to which it was joined, and slipping over the petals when the flowers begin to expand,

of a thin membranaceous texture, green, and striated with numerous longitudinal lines. *Petals* 4, inserted in the receptacle, golden yellow, deep orange-coloured at the base, broad at the end. *Stamens* about 30, or rather more: *filaments* short, more or less connected into sets at the base: *anthers* golden yellow, linear, two-lobed, bursting by the sides for the exclusion of the pollen, attached by their base to the filaments. *Ovarium* smooth, elongate, 10-striate, terminated by 4 filiform Stigmas, two about double the length of the others.

This pretty plant was first discovered, a great many years since, by Archibald Menzies, Esq. who brought specimens of it to this country; it was afterwards discovered by Chamisso in the expedition commanded by Captain Kotzebue, and is described and figured by him in the *Horæ Physicæ*, where he has named it in compliment to his fellow traveller Dr. Eschscholtz, Physician and assistant naturalist to the expedition. But the seeds from which the living plants in this country were first raised, were sent, we believe, by Mr. David Douglas, the indefatigable collector sent out by the Horticultural Society, who discovered it on the coast of California, and who, by his exertions, has collected a great number of new and rare hardy plants, with which our gardens are now enriched.

The present plant is said to be perennial, but from its appearance we should suppose it to be only an annual, or at most a biennial; at any rate it is a very handsome free flowering plant, continuing to bloom till Winter, and will flower the first year that it is sown, and ripen its seeds; those may either be sown in the open ground, or may be raised on a hot-bed, and transplanted when young into the borders.

Our drawing was taken at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, where we saw a bed of it in full bloom this Summer.



1. A few of the Stamens, showing the shape of the filaments, attached to the base of the anthers. 2. The Ovarium, terminated by the 4 Styles, 2 double the length of the others, the ovarium seated at the base of the tubular receptacle, the margin of which is shallowly sinuate. 3. Pod, nearly full grown. 4. The same split open, showing the unripe seeds.



E.D. Smith, Del.

Pub. by R. T. Wood, Apr. 1889

Woodward & Co.

POLEMONIUM villosum.

Dwarf hairy Polemonium.

Natural Order. POLEMONIACEÆ. *D. Don. in Edinb. phil. journ.* Oct. 1822.

POLEMONIUM. Supra fol. 182.

P. villosum, caule piloso angulato erecto, foliis pinnatis multijugis: foliolis ovatis obtusiusculis utrinque pilosis, floribus subpaniculatis mutatis, corollæ laciniis rotundis crenulatis.

Polemonium villosum. *Rudolphi. Georg. besch. des russ. reichs.* 3. p. 771. 1800.

Polemonium humile. *Rœm. et Schult. syst.* 4. add. p. 792. 1819. ex *Herb. Willd. Mss.*

Polemonium richardsoni. *Graham in Botan. magaz.* 2800?

Polemonium coeruleum var. β *Gmel. sib.* 4. p. 103. n. 69.

Root perennial, simple, or generally so, elongated to a great length. *Stem* erect, about a span high, scarcely longer than the radical leaves, leafy, angular, thickly clothed with weak hairs and soft down intermixed, more or less tinged with purple. *Leaves* pinnate, hairy on both sides, bearing from 8 to 12 pair of leaflets, and terminated by an odd one, decreasing in number up the stem: *leaflets* sessile, opposite and alternate, ovate, slightly oblique at the base, bluntish, terminated in a brown callous point, hairy on both sides, fringed at the edges, rather succulent, obscurely veined, of a light green colour. *Petioles* slightly winged, channelled on the upper side, dilated at the base, where it is more or less tinged with purple. *Flowers* pale blue, slightly nodding, of rather a disagreeable scent, in a sort of few flowered corymbose panicle. *Peduncles* villosely hairy, slightly viscid. *Calyx* campanulate, 5-cleft, villous and viscid: the segments erect or slightly spreading, ovate, bluntish. *Corolla* rotate; tube about the length of the calyx: yellow in the throat: limb spreading, 5-cleft; the segments broadly obovate, rounded, slightly crenulate, striated with numerous purple veins, slightly pubescent outside. *Stamens* 5, inserted in the mouth of the tube, and alternate with the segments of the limb: *filaments* slender, flattened, tapering to the point, and each surrounded at the base with a dense beard, or fascicle of hairs: *anthers* two-lobed, at first sa-

gittate, after bursting becoming flattened and nearly round: *pollen* white. *Ovarium* smooth, roundly oval, seated on a sort of crown. *Style* smooth, slender, longer than the stamens. *Stigma* in our specimens all 3-cleft, the segments blunt, pubescent, at first reflexed, then becoming revolute.

Our drawing of this pretty species of *Polemonium* was made from specimens kindly sent to us by Robert Barclay, Esq. in whose splendid collection at Bury Hill, plants of it were raised last year, from seeds given him by Mr. Hunne- man, under the name of *P. pulchellum*, who received them from Siberia; we have determined it to be the *P. villosum* of Georgi in the work above quoted, which was published in the year 1800, but appears not to have been seen by Rœmer and Schultes, or Sprengel, who have published it under the name of *P. humile*; we are obliged to Mr. D. Don for pointing it out to us in the above work, and also for the sight of fine native specimens of it in Mr. Lambert's Herbarium, that were collected by Pallas, and by him named *P. pubescens*. We believe the *P. Richardsoni* of Graham in the Botanical Magazine is not specifically distinct; the only difference we could see in them at Mr. Barclay's, where they were both growing and flowering together, was, that the rachis between the leaflets of *P. Richardsoni* was smoother, and the flowers rather less and of rather a lighter colour; but at the same time we noticed that different plants of *P. villosum* varied considerably in the form of their leaflets, and also in the colour of their flowers, so that we think they will both prove to belong to the same species. It thrives well in the open borders in the common garden soil, and may be increased by seeds, or by dividing at the root.

In Mr. W. Russell's Nursery at Battersea, we see a great many fine plants of *P. sibiricum* for sale, which has hitherto been a scarce plant in the neighbourhood of London.

Polemonium is derived from *πολεμος*, war; but it is not known at present what plant was originally meant; it is from its supposed vulnerary qualities; it is also said to have caused war between two Kings, as to which should have the merit of its discovery.

1. Calyx. 2. Tube of the Corolla spread open, to show the insertion of the Stamens, bearded at the base of the filaments. 3. Filament detached, to show the beard at the base. 4. Ovarium seated on a crown, terminated by the smooth Style and 3-cleft Stigma.



Wadoodi

Pub. by J. Stewart, Sept. 7 A. D.

PL 111-274

ALSTRÆMERIA Simsii.

Sims's hairy Alstrœmeria.

Natural Order. AMARYLLIDÆE. *Kth. synopsis.* 1. p. 285.
ALSTRÆMERIA. Supra fol. 228.

A. Simsii, caule erecto glabro, foliis ellipticis spathulatisve glaucis subtortis ciliatis, umbella multiflora erecta, pedunculis 2-4-floris, perianthii laciniis inæqualibus subspathulatis apiculatis: lateralibus subserratis: superioribus maculatis.

Alstroemeria Simsii. *Spreng. syst.* 2. p. 80. *Swt. hort. brit.* p. 408.

Alstroemeria pulchella. *Sims Botan. magaz.* 2353. *Hooker exot. flor.* 64. *Lindl. botan. regist.* 1008. non *Linn.*

Roots a fascicle of long fleshy white tubers, some of which are about the thickness of the finger, and extending from 6 inches to a foot in length. *Stems* several from the same root, erect, 3 or 4 feet high, varying in thickness according to their strength, smooth. *Leaves* about 3 inches long, and an inch broad in the widest part, acute, much tapering to the base, 2 or 3 times twisted, of a white glaucous colour, pubescent, and fringed at the margins. *Umbels* terminal, producing several peduncles or flower stems. *Involucre* composed of several leaves. *Peduncles* smooth, generally 3 or 4-flowered, with a lanceolate fringed bracteal leaf at the base of each flower-stalk. *Pedicles* smooth, a little angular, thickening upwards. *Ovarium* below the flower, 6-angular, smooth, nearly top-shaped. *Perianthium* deeply 6-parted, the segments unequal, with cartilaginous points: 4 lower ones broadest, of an orange scarlet, spreading open or a little reflexed: the upper ones narrower, of a lighter colour, striped or spotted with dark purple or velvet. *Stamens* 6; *filaments* smooth, three of them longer than the others: *anthers* bursting at various times in succession: *pollen* of a greenish grey. *Style* smooth, purplish. *Stigma* trifid, the segments spreading, or reflexed at the points.

We have given a fine figure of this splendid plant, that our Subscribers may be acquainted with its hardiness, a plant of it given us by Mr. W. Anderson, having stood well in a warm border in our garden several years, without any protection, where it thrives well, and grows more stout and robust, but not near so tall as when drawn up in a Greenhouse or Conservatory; but it requires to be well watched, that the snails and slugs do not devour it, as they are particularly fond of it, and of the whole of this genus: it requires the ground made for it, of a composition of light loam, mixed with a little peat or decayed leaves, and about half sand; or if the loam be heavy, more than half sand will be required, as the greater part of the species grow in sandy soil in their native country: it should be planted full six inches deep; and in very severe frost, if covered with a little hay or straw, it will be more safe: several late authors have given this as *A. pulchella*; but it is certainly very different from Linnæus's *A. pulchella*; we have therefore adopted Sprengel's name, as the species was first published by Dr. Sims in the Botanical Magazine.

Our drawing was made from a strong plant, bearing numerous strong stems, loaded with flowers, in the Conservatory of Mr. Colvill, in July last; we think nothing could exceed its grandeur in appearance.

We have no doubt but the greater part of the species of this handsome genus will thrive well in a warm border in the open ground, heavy soil and a moist situation being more injurious to them than cold: our plant of *A. hirtella* has this year attained the height of ten feet, with three stout stems, the largest terminated with thirty-nine flowers, the others with about twenty each, which made a fine appearance, and continued in bloom above two months, being still in flower.

The genus was named by Linnæus, in compliment to his friend Claudius Alstroemer, who first sent him seeds of *A. Pelegrina* from Spain, to which country it had been introduced from Peru.



1. The 6 Stamens, three of them with the anthers burst, showing the pollen, the other three not burst. 2. Ovarium terminated by the smooth Style, and trifid Stigma.



E. D. Smith, Del.

Pub. by R. Sivest. Apr. 25, 1878.

W. H. L. & Co.

ŒNOTHÈRA roseo-alba.

Rose and White Œnothera.

Natural Order. ONAGRARIÆ. *DC. prodr.* 3. p. 35.

ŒNOTHÈRA. *Supra fol.* 5 et 133.

Sect. II. ONAGRA. Stigma quadrifidum. Antheræ oblongo-lineares basi sæpè emarginatæ. Fructus oblongus cylindrico-tetragonus, valvis linearibus. DC. prodr. 3. p. 46.

Œ. roseo-alba, canescens, foliis petiolatis ovato-oblongis obtusiusculis denticulatis, petalis roseo-albis crenatis medio rubro-maculatis capsulis elongatis cylindrico-tetragonis pubescentibus.

Œnothera roseo-alba. *Bern. in sched. hort. Erford 1824. Reichenb. hort. bot.* 1. p. 34. t. 47. *ex DC. prodr.* 3. p. 46. n. 29. *Spreng. syst.* 2. v. 4. *par.* 2. p. 150.

Annual, erect, canescent, branching: *branches* erect, clothed with a short canescent pubescence, as are the leaves, ovariums, and calyx. *Leaves* petiolate, rather succulent, ovately oblong, bluntish at the point, slightly toothed here and there with very small teeth, or sometimes quite entire, attenuated towards the base, pennately veined, the veins rather inconspicuous. *Petioles* slightly winged, which causes a slight channel on the upper side, convex below, clothed with a short pubescence. *Flowers* axillary, the leaf sometimes growing on the short pedicle at the bottom of the ovarium, white tinged with blush, marked at the base with rose colour. *Ovary* unequal in length, those on the lower part of the stem much longer than the upper ones, shortly pedicellate, nearly cylindrical, bluntly four-sided and four-furrowed. *Calyx* of 4 sepals, connected into a short tube at the base, the limb divided into four, that are sometimes connected by two's at the point, sometimes altogether, and others are all distinct; *sepals* lanceolate, acute, broadest at the base, concave on the upper side, all reflexed or bending downwards when the flower is expanded, tubular and 4-angular before expansion. *Petals* 4,

broad at the end, and very much crenulate, tapering to the base, inserted in the tube of the calyx at the mouth, white tinged with blush, with a pale rose-coloured base, and a bright rose-coloured interrupted spot in the centre of each. *Stamens* 8, also inserted in the mouth of the tube, 4 opposite to the petals, and 4 alternating with them: *filaments* smooth, rather flattened, purple; *anthers* purple, linear, attached to the filaments by their base: *pollen* pale yellow. *Style* smooth, about the length of the stamens. *Stigma* 4-cleft, the segments straw-coloured, villosely hispid, at first erect, afterwards spreading.

For the opportunity afforded us, of giving so good a figure of this fine plant, we are indebted to the kindness of Robert Barclay, Esq. from whom we received fine specimens of it in full bloom in July last; and when we visited his collection in the same month, we observed large patches of it, that made a fine appearance; it is certainly one of the most beautiful of the genus, and thrives well in the open border of the Flower Garden, requiring nothing but the common treatment of hardy annuals. It seems not well ascertained of what country the present subject is a native, some giving it as Nepaul, and others supposing it to be America; we are inclined to believe it a hybrid production, produced in the German gardens, between *Æ. Romanzovii* and *Æ. cæspitosa*; but that remains to be ascertained; the habit of the plant is nearly intermediate between the two; its flowers are more like *Æ. Lindleyana* than any other, but the habit of the plant is totally different; it is certainly a great acquisition to our hardy annuals, and is well worthy a place in every garden.

The generic name is derived from οἶνος wine, and Σῆρα a fierce beast, the roots being boiled, and given them in a decoction to drink, to calm their ferocity.



1. Calyx, the 4 segments all separate, and bent downwards to show the insertion of the stamens. 2. The 8 Stamens inserted in the mouth of the tube of the calyx. 3. Upper part of the Ovarium. 4. Style terminated by the 4-cleft Stigma.



Rubus fruticosus

Rubus fruticosus

Rubus fruticosus

RHEUM AUSTRALE.

Officinal Rhubarb.

Natural Order. POLYGONÆ. Juss. gen. p. 82.

RHEUM. *Perianthium* duplici ordine 6-partitum. *Stamina* 9: *filamenta* basi in cyathulum connata. *Stigmata* 3, peltata ! imberbia, disco inæqualitèr tuberculata. *Nux* triquetra. *Embryo* axilis, rectus.—*Herbæ (Asiaticæ) perennes, robustæ. Folia ampla, sæpius indivisa. Stipulæ vaginantes. Flores spicato-paniculati, plerumque ex viridi albi. D. Don Mss.*

R. australe, papilloso-asperum; foliis cordatis obtusissimis planis, petiolis profundè sulcatis, paniculâ elongatâ, pedicellis hexagonis verrucosis.

Rheum australe. *D. Don prodr. fl. nep. p. 75. Spreng. syst. v. 4. par. 2. p. 156.*

Rheum Emodi. *Wallich Mss.*

Planta robusta, papillis minutis, callois, albis, dein purpurascens, singulis v. fasciculatis copiosè obsita. Caulis erectus, subflexuosus, ramosus, validus, altitudine varius, nunc (sub dio culta) sæpè 10-pedalis, sed spontè nascens vix 3-pedalis, teres, sulcatus et striatus, nunc viridis, tunc erubescens, diametro biuncialis, substantiâ crassitie ferè semipollicem æquanti; intùs cavus, parietibus medullâ spongiosâ niveâ succulentâ interruptè vestitis, basin versus validior, tùm papillis oblitteratis lævem evadit. Rami validi, profundius sulcati. Folia ampla, petiolata, cordata, obtusissima, quàm in cæteris planiora magisque membranacea, margine integerrima denticulisque cartilagineis, fasciculatis, duplici ordine undulatim digestis, erubescens, copiosè ornata, utrinque minutè papillosa, tactu asperiuscula; subtùs copiosius vestita, tunc ferè pubescentia, costis 5 validissimis (lateralibus vix basi connatis) venisque robustis varicosa, interstitiis membranaceis; suprà gramineo-viridia, venis costisque colore sanguinolentis, depressis, hinc reticulatim rugosis: basi truncatâ: posticibus remotis, rotundatis; latitudine longitudineque 2-4-pedes æquantia; caulina sensim minora; suprema costis exterioribus basi alatis. Petioli robusti, angulato-sulcati, rubro-papilloso, asperiusculi, subtùs convexi, viridis, suprà plani, erubescens, marginibus elevatis rotundatis, sesqui v. bipedales, crassitie pollicem v. 2-pollicem æquantes; radicales nunc tripedales, suprà omninò plani. Ochreæ amplæ, vaginantes, membranaceæ, vasculares, extùs copiosè papillosæ, caule increscenti utrinque fissæ, apicibus acuminatis, subitè marcescentes, longitudine 5-unciales. Panicula elongata, coarctata, foliis nonnullis ornata. Flores omnium minimi, atrosanguinei ! copiosissimi, pedicellati, penduli, interruptè verticillati, in racemis spicatis erectis dispositi. Pedicelli hexagoni, apice crassiore clavati, sesquilineam longi. Perianthium duplici ordine 6-partitum, ante expansionem hexago-

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num, extùs cum pedicellis punctis elevatis numerosissimis instructum: *segmentis* oblongis, obtusissimis, carnosis, hinc convexis obtusè carinatis, indè concavis, apice membranaceis; 3 *exterioribus* plurimùm minoribus. *Stamina* 9, perianthio multò breviora; *alter-nis* paulò longioribus, segmentis perianthii interioribus sigillatim oppositis; cæteris per paria! segmentis exterioribus oppositis apicibus divergentibus: *filamenta* complanata, acuminata, atropurpurea, basi in cyathulum connata, hinc discus perianthii incrassatus: *antheræ* biloculares, subrotundæ, medio insertæ, erectæ, demùm incumbentes, colore saturatiore: *loculis* parallelis interiùs longitudinalitèr dehiscentibus, utrinque solutis, medio tantùm connatis. *Ovarium* triquetrum, lævissimum. *Styli* 3, teretes, glabri, brevissimi, angulis ovarii cruciatim reclinati. *Stigmata* peltata! suborbiculata, imberbia, pendula, nigro-purpurea, disco crasso inæqualitèr tuberculato-rugoso, margine parùm revoluto. *Nuces* triquetræ, sanguineæ, splendore nitidissimæ, pulcherrimæ: *angulis* alatis, acutis, dolobratiss, basi apiceque paululùm productis, rotundatis: *testa* simplex, cartilaginea: *albumen* copiosum, farinaceum. *Embryo* inversus, axillis, rectus, lacteus: *cotyledones* orbiculatæ, vasculares! complanatæ: *radicula* supera, teres, crassa, cotyledonibus brevior, basi mucronulo tennissimo munita. *Plumula* inconspicua. *D. Don Mss.*

“ The plant that yields the fine Rhubarb of commerce, having been long involved in obscurity, it is gratifying to have an opportunity of giving a figure of it, taken from living plants that flowered about the end of June last, in the collection of A. B. Lambert, Esq. at Boyton House, Wilts; but independent of the interest attached to it as a medicinal plant, it has other claims to a place in the “ British Flower Garden,” being undoubtedly the handsomest of the genus. The stem in the cultivated plant, is from 7 to 10 feet high, the leaves are numerous, ample, and of a grassy green: the flowers are smaller than in any other species of the genus, of a dark or blood red colour, and disposed in many branched clusters; the seeds that afterwards appear, are dark red, with a highly polished surface, resembling, at a distance, clusters of glittering beads. When bruised, they emit a powerful odour of Rhubarb, are highly astringent, and dye the fingers red, from the quantity of colouring matter contained in the testa. It is perfectly hardy, and appears to ripen its seeds even more copiously than the other species; and, from some trials that have been made with the footstalks of the leaves, it seems disposed to vindicate its medicinal claims, even in our own climate. The colour of the flowers would

alone be sufficient to distinguish it among its congeners; the late period of flowering deserves also to be remarked.

“ As all the species are endowed, in a greater or less degree, with similar properties, much difference of opinion has arisen, both among botanists and pharmacologists, respecting the one that yields the Rhubarb of commerce: Linnæus considered it at first as the produce of his *R. rhubarbarum* or *undulatum*, but he afterwards appears to have altered his opinion in favour of *R. palmatum*, which opinion has been almost universally adopted by pharmacological writers, although it is admitted that the qualities of the root of the *R. palmatum* differ materially from the Turkey rhubarb of the shops; but this deterioration has been attributed to the difference of soil and climate. The following extracts are from a communication of mine, inserted in the Number for April, 1827, of “ The Edinburgh new Philosophical Journal.”

“ But it was reserved for Dr. Wallich, the zealous Superintendent of the Calcutta Botanic Garden, to set this long agitated question at rest, by the transmission of seeds, and dried specimens of the true Rhubarb plant to Europe. Last Spring, Mr. Colebrooke received a quantity of the ripe seeds from Dr. Wallich, and presented a portion of them to Mr. Lambert, who has been so fortunate as to raise a number of plants of this valuable vegetable.”

“ The *R. australe* appears to be peculiar to the great table lands of central Asia, between the latitudes of 31° and 40°, where it is found to flourish at an elevation of 11,000 feet above the level of the sea.—Large quantities of the roots are annually collected for exportation in the Chinese provinces within the lofty range of the Himalaya. The best is that which comes by way of Russia, as greater care is taken in the selection; and on its arrival at Kiachta, within the Russian frontiers, the roots are carefully examined, and the damaged pieces removed.”

The above account is from the pen of Mr. David Don, who first described the species in his “ *Prodromus Floræ Nepalensis*.” It is certainly a valuable acquisition to our gardens; and as it produces such an abundance of seeds, it is likely soon to become plentiful, and is already in several of the Nurseries and Collections about town; we have seen several strong plants of it at the Nursery of

Messrs. Whitley, Brames, and Milne, at Fulham, but they have not yet flowered. Mr. Anderson, at the Apothecaries' Company's Garden at Chelsea, has it also growing very luxuriantly; and any person who has a garden may now grow his own Rhubarb, by which means he will be certain to get it true, which is frequently not the case when purchased at the Druggists or Apothecaries, who often sell the common sort for it, as we have repeatedly found; this latter is of very little use, and it is only deceiving the public who buy it.

We are informed that the stems of the leaves of this species have the same effect as the root, only of course a greater portion of them will require to be used; they may be made up in a small tart like the stems of the common Rhubarb; and we are of opinion that if this medicine is judiciously used, either the stems or roots, there will be very little need of any other; we never use any other sort ourselves; and there can be no doubt but too much of any sort weakens, and after a time completely destroys the constitution, particularly the mineral compositions so much now in use.

The best method of raising plants of this species from seeds, is to sow them in pots, which should be placed in frames in Winter, as the young plants will be liable to be killed by severe frost; if the seeds are very dry, many of the plants will not come up till the second year; but if sown as soon as ripe, the greater part will come up the following Spring. When planted in the borders, they will require to be planted deep, that the frost may not injure their crowns in Winter; and if the Winter is very severe, it will be requisite to cover them up a little; a good rich loamy soil suits them best.

Rheum, according to Dioscorides, has its origin from the river Rha, (now the Volga,) "beyond which grows a root bearing its name, that is much renowned in medicine." *Rhabarbarum* of Tournefort is derived from the same source. Linnæus derives it from $\rho\epsilon\omega$ to flow, from its medicinal qualities.



1. Perianthium spread open, to show its unequal segments. 2. The 8 Stamens. 3. The rough glandular Pedicle, terminated by the Ovarium, three Styles and peltate Stigmas. 4. Part of a branch of Seeds. 5. Small Leaf, partly coloured, to show the little red glands at the margin.



L.D. Smith. Del.

Pub. by R. Sweet. Oct. 1843

Waddell's

TROPÆOLUM tricolorum.

Three-coloured Indian Cress.

Natural Order. TROPÆOLEÆ. *Juss. mem. mus.* 3. p. 447.

TROPÆOLUM. *Calyx* 5-partitus, irregularis, infra laciniam inferiorem calcaratus, coloratus. *Petala* 5, cum laciniiis calycis alternantia, magis minusve unguiculata et inæqualia, integra vel incisa; tria superiora hypogyna, duo inferiora calyci inserta. *Stamina* 8, hypogyna. *Filamenta* libera. *Antheræ* biloculares. *Ovarium* sessile, tricoccum; *ovulum* 1 in quolibet corco, axi centrali affixum, pendulum. *Discus* nullus. *Stylus* 1. *Stigma* trifidum. *Fructus* tricoccus, exsuccus; coccis subfungosis, 1-spermis, indehiscentibus, axi centrali affixis, tardius solubilibus. *Endospermium* nullum. *Cotyledones* inter se conferruminatæ. *Radicula* supera.—*Herbæ diffusæ vel volubiles.* *Folia* alterna, *extipulata* (*primordialia opposita, petiolis basi bistipulatis*.) *simplicia et peltata, rarius digitata.* *Pedunculi* axillares, solitarii, uniflori, ebracteati. *Kth. synopsis.* 3. p. 235-236.

T. tricolorum, caule tenuissimo scandente ramoso, foliis peltatisectis: segmentis 6-7 oblongis obovatisve integris basi attenuatis, petiolis cirrhosis, petalis unguiculatis calyce persistente subclauso parum longioribus obtusis integerrimis.

Root tuberous, oblong, with a rough brown bark. *Stem* very slender, attaining the height of 10 or 12 feet, very much branched, smooth, climbing or ascending, supporting itself by the footstalks of the leaves that twist round and catch hold of sticks or branches in the same manner as tendrils which they resemble. *Leaves* peltate, smooth, divided nearly to the base into 6 or 7 segments, that are radiately spreading, unequal in size, oblong or obovate, distinct, bluntly rounded at the point, or sometimes mucronulate, tapering to the base, but sessile, faintly veined, of a light green colour. *Petioles* slender, cylindrical, smooth, twisted like a tendril, and laying hold of any small branch within its reach. *Flowers* numerous, axillary. *Peduncles* 1-flowered, very slender at the base, thickening upwards, smooth, purple. *Calyx* 5-parted, terminated in a long slender spur at the base, of a glossy scarlet orange-colour, with a circle of dark purple, nearly black, round the mouth, the mouth closed inwards, so as only to leave just room enough for the points of the petals, which extend a little beyond it, inflated below the mouth: spur slenderest in the middle, thickened and blunt at the end: segments of the limb straight and rigid, ovate, bluntly rounded, those from which the spur is produced rather largest, but the difference in their size is very little. *Petals* 5, inserted in the calyx, and alternate with the segments, small, unguiculate, broad and flat at the point, of a bright yellow colour, unequal in

size, those on the upper side broadest, and not so slenderly unguiculate. *Stamens* 8; *filaments* smooth, unequal in length, thickish, but becoming very slender abruptly at the point, attached to the base of the anthers: *anthers* two-lobed. *Ovarium* smooth, 3-lobed. *Style* erect, 3-striate, shorter than the filaments, terminated in 3 acute, unequal Stigmas, one of which is more than double the size of the others. *Seeds* 3, sometimes 1 or 2 of them abortive, inclosed in the persistent calyx.

This very elegant climbing plant, which is certainly one of the most beautiful and interesting that has been introduced to this country for some time, has been in flower ever since June last, at the Garden belonging to the Apothecaries' Company at Chelsea, and will continue to bloom till killed down by frost, being now about 10 feet high, and covered with flowers from the bottom to the top, which makes a very gay and lively appearance: some roots of the present, and another species, were presented to Mr. Anderson, by Miss Oriana Georgiana Reinagle, who received them from Miss White, daughter to the Vice Consul at Valparaiso, who observes, "Our Virandas are covered with many sorts of such creepers." The roots were tuberous, those of the present species were oblong, and the other species that has not flowered were flat, not unlike a Cyclamen root; they left Valparaiso in October, 1827, and were planted in the Botanic Garden at Chelsea, in March, 1828. Those planted in pots, and placed in the Hothouse, did no good, but drew up very weak, and soon dwindled away; but the others that were planted by the side of a wall in the Garden succeeded very well, grew very luxuriantly, and have ripened abundance of seeds. A light sandy soil suits them best, and the roots should be taken up as soon as the frost injures the stems, when they may be kept in a dry place, out of the reach of frost, in a little dry earth or sand till the following March or April, when they should be planted from 4 to 6 inches deep, according to the size of the roots. The seeds should be planted in April or May, if in the open ground, or earlier if sown in pots in the Greenhouse or Stove. We have no doubt but young cuttings, planted under hand-glasses in Spring, would also strike root, and make tubers by Autumn.

The generic name is derived from the form of the leaves, which resemble a trophy or shield, most prominent in *T. majus*.



1. Calyx spread open, showing the 5 segments. 2. The 5 Petals, alternate with the segments of the calyx. 3. Spur. 4. Footstalk of the Flower. 5. The 8 Stamens. 6. Ovarium, terminated by the Style and three unequal Stigmas. 7. Fruit.



P. montana Dru.

Pink up to 10 in. 10 in.

WILLIS

SALPIGLÓSSIS atropurpurea.*Deep-purple-flowered Salpiglossis.**Natural Order.* SOLANEE. *Brown prodr.* 1. p. 443.*Sect.* II. Corolla non plicata, regularis. Stamina didynama. Embryo leviter arcuatus. Pericarpium capsulare v. baccatum.*SALPIGLOSSIS.* *Supra fol.* 231.


S. atropurpurea, glanduloso-piloso, foliis inferioribus petiolatis elliptico-oblongis sinuatis penninerviis; superioribus sessilibus lanceolato-linearibus integerrimis, caule paniculato-ramoso, ramis dichotomis, filamentis glanduloso-pilosis, stylo edentulo.

Salpiglossis atropurpurea. *Graham in Botan. magaz.* 2811.

Perennial, or perhaps *biennial*? all over glandularly hairy. *Stem* suffrutescent at the base, in our specimens in the open ground about two feet high, paniculately branching, the branches forked and bearing a flower in each fork, all over thickly covered with hairs, the hairs tipped with pyramidal glands. *Leaves* of various shapes and sizes, hairy on both sides; lower ones petiolate or on long footstalks, elliptically oblong, obtuse, more or less sinuate, the lobes shallow and rounded, penninerved, the nerves branched a little, but the leaves scarcely rugose: the petioles slightly winged on each side: stem-leaves lanceolately linear, a little undulate, sometimes a little bluntish, others are acute; upper ones sessile, quite entire, and glandularly hairy. *Flowers* large, dark purple, sometimes nearly black, orange-coloured in the throat, veined with darker veins. *Peduncles* in the forks of the branches, or opposite to the bractes, shortish, but unequal in length. *Bractes* leaf-like, scattered. *Calyx* 5-angular, 5-cleft, angles dark-coloured: segments lanceolate, acute, keeled, two upper ones rather longest. *Corolla* large, funnel-form, the tube slender at the base, and to a little above the calyx, becoming inflated and bell-shaped from the middle, where the stamens are inserted: limb spreading, 5-lobed, the upper one largest, and the two lower ones smallest, the lobes each two-lobed, bluntly rounded with a deepish notch between the lobes: outside of the tube strongly nerved with numerous prominent nerves, which branch into veins, and extend over the whole flower. *Stamens* 5, inserted in the tube where it becomes inflated, and decurrent down it, included within the mouth, four fertile and one sterile; the four fertile ones didynamous, or two longer than the others: *filaments* purple upwards and light below, the two shortest broadest below, and clothed

with hairs their whole length, that are tipped with black glands: 2 longer ones only hairy below and naked upwards, sterile one also hairy, and bearing the rudiment of an anther: the anthers on the long filaments smallest: *pollen* golden yellow. *Ovarium* smooth, conical, terminated by a smooth Style, that is cylindrical below, but widening and becoming flat and tongue-shaped upwards, but slightly keeled on both sides. *Stigma* truncate, transverse, and channelled through the centre.

Our drawing of this beautiful plant, was made from fine specimens kindly sent to us from the collection of Robert Barclay, Esq. of Bury-hill, in July last, where it was raised from seeds received from Chile; it varies considerably in the size of its flowers, according to the soil and situation in which it is grown; the figure in the Botanical Magazine, being taken from a weak plant, grown in a pot, being so small as scarcely to be recognised as the same species, particularly as the tube of the corolla extends so far beyond the calyx, which in Mr. Barclay's plant is scarcely longer than the calyx; but the plants being grown in rich soil in the borders of the garden accounts for this, the tube being much shorter where the flowers are large. A plant of the same species, sent to us by Mr. Tate, of Sloane Street, last Autumn, we planted out in a border in our garden, and when the weather was frosty through the Winter, we placed a garden pot over it, which succeeded very well; it flowered very strong this Summer, and ripened its seeds; the flowers were as near as possible intermediate in size and in the length of the tube between the one figured in the Magazine and the present figure. Mr. Tate received the seeds of it and *S. straminea* from Chile, sent home by the British Consul, with seeds and bulbs of various other curious plants.

All the species of this handsome genus prefer a rich light soil, and should be planted in a warm border, where they will require a little protection in Winter; it is readily increased, either by cuttings planted under hand-glasses, or by seeds, which ripen plentifully. If the seeds are sown soon after they are gathered, and the plants preserved in frames, the light window of a room, or Greenhouse, and planted in the borders in Spring, they will flower and ripen their seeds the next Summer.



1. Calyx. 2. Tube of the Corolla split open to show the insertion of the Stamens, the two shorter fertile ones clothed with hairs all their length, the hairs tipped with black glands, the longer ones hairy below and smooth upwards, sterile one with the rudiment of an anther. 3. Ovarium, terminated by the tongue-shaped Style and transverse Stigma. 4. Radical leaf.



Veronica, etc.

Painted by Howard Chandler Christy

Woodcut by

TAXANTHEMA incana.

Hoary Sea Lavender.

Natural Order. PLUMBAGINÆE. *Brown prodr.* 425.

TAXANTHEMA. *Supra fol.* 37.

T. incana, foliis lanceolatis trinerviis subundulatis apice mucronatis incano-pubescentibus, scapo paniculato ramosissimo, ramis triquetris.

Taxanthema incana. *Swt. hort. brit.* p. 332. *Penny in Young's Hortus Epsomensis. par.* 1. p. 46. col. 2.

Statice incana. *Linn. mant.* p. 59. 513. *Syst. veg.* p. 300. *Vahl symb.* 1. p. 25. *Willden. sp.* 1. p. 1525. *Pers. syn.* 1. p. 333. *M. Bieb. fl. taur. cauc.* 1. p. 251. *Ræm. et Schult. syst.* 6. p. 783. *Spreng. syst.* 1. p. 959.

Statice speciosa. *Forsk. cat. ægypt.* p. 65. n. 192. *nec aliorum.*

Statice rubella. *Gmel. it.* 2. t. 34. *Gmel. syst. veg.* 1. p. 512.

Perennial; herbaceous. *Leaves* radiately spreading, the centre ones erect, lanceolate, acute, more or less undulate, terminated by a sharp rigid mucrone, tapering to a long slender base, clothed with a short hoary pubescence, 3-nerved, the margin smooth but of a cartilaginous substance: lower ones broadest, elliptically lanceolate, becoming nearly smooth by age; while young clothed with a short dense hoary pubescence. *Stem* from a span to a foot in height, according to the strength of the plant, the lower part cylindrical, paniculately branching: *branches of the panicle* alternate, numerous, many times divided, triquetrous, the angles slightly winged, clothed with a short close pressed pubescence: flowering spikes short, much crowded. *Flowers* all facing one way, varying on different plants from dark red to very light, on some plants nearly white. *Bractes* clasping the stem, ovate, keeled, taper-pointed. *Glumes* 3, surrounding the calyx, their margins membranaceous; inner one trifid, the points subulate: the others entire, cucullate and dilated at the base, tapering to a slender point.

Calyx funnel-form, with a white scariose limb, not unlike paper: *tube* membranaceous, with 5 green angles, which terminate in the segments of the limb: *limb* spreading, 5-cleft, the segments flat, lanceolate, acute. *Petals* 5, spathulate, rounded at the point: the unguis white, about half the length of the calyx; the limb spreading. *Stamens* 5, inserted in the base of the petals: *filaments* smooth, slender, attached to the back of the anthers: *anthers* scarcely exerted. *Ovary* smooth. *Styles* 5, distinct, thickly clothed with a glandular pubescence. *Stigmas* green, capitate.

This very handsome species varies considerably in the colour of its flowers; in some plants dark red, others light red or pale rose-colour, and some are nearly white; it appears doubtful to us, whether there are not two distinct species confused by different authors, as the descriptions given do not all correspond with each other; we have never seen but one plant of the dark colour represented in our figure, which was at the Nursery of Messrs. Charles, James, and Peter Young, at Epsom, and from specimens sent us from their extensive and interesting collection our drawing was made; the small branch, with the light red flowers at the bottom of the plate, was from a plant in the Apothecaries' Company's Garden at Chelsea, which variety we have seen at the Nursery of Mr. Lee, at Hammersmith, and also at Mr. Knight's Nursery, in the King's Road. The species is nearest related to *T. tatarica*, figured at t. 37 of this work; the present is much less winged, the flowers closer to each other, and the leaves much less, and clothed with a canescent pubescence: it is sometimes increased by splitting down the main root in several parts, leaving a crown to each; this operation should be done in February or March, but a much better method is to raise it from seeds; a rich loamy soil, rather sandy, suits it best.

The generic name is derived from *ταξις*, arrangement or order, and *ανθεμος*, flowery, from the flowery arrangement of the spikes.



1. The dark red variety. 2. A light red variety. 3. The 2 outer bractes.
4. Inner bracte, with a trifid point. 5. Calyx. 6. The 5 Petals, with a Stamen inserted in the base of each. 7. Ovary, terminated with 5 glandularly hairy Styles, each ending in a small capitate green Stigma.



CYCLOBÓTHRA bárbata.

*Bearded Cyclobothra.**Natural Order.* TULIPACEÆ. *Kth. synops.* 1. p. 292.

CYCLOBOTHRÁ. *Perianthium* petaloideum, hexaphyllo-partitum, imbricato-subcampanulatum: foliolis rectiusculis subpatentibus, intus supra basin fovea nectarifera rotunda barbata excavatis; exterioribus duplo minoribus. *Stamina* 6, basi perianthio inserta: filamenta planiuscula. *Ovarium* trigonum, trisulcatum. *Stigmata* 3, introrsum canaliculata, apice reflexa. *Capsula* oblonga, obtuse trigona, polysperma. — *Radix bulbosa*. *Caulis herbaceus, foliatus*. Flores terminales, subnatastes.

C. barbata, caule paucifloro, foliis sparsis linearibus acuminatis supra canaliculatis glaucescentibus, perianthii foliolis barbatis: exterioribus duplo minoribus oblongo-lanceolatis cuspidatis: interioribus obovatis acuminatis crenulatis, foveo nectarifero rotundato dense barbato.

Fritillaria barbata. *Humb. Bonpl. et Kunth nov. pl. gen. et spec. amer. æquin.* 1. p. 288. *Kth. synops.* 1. p. 292. *Spreng. syst.* 2. p. 64.

Root bulbous, oblong, pointed upwards, clothed with a rigid fibrous shell or coat. *Leaves* very long, leek-like, linear, and tapering to a slender point, sometimes more or less twisted, while others are straight, glaucous, and channelled on the upper side, the lower side greener, keeled, and striate, sheathing the stem at the base. *Stem* slender, leafy, about a foot high, smooth but slightly glaucous, bearing bulbs in the axils of the leaves at the base of the peduncles. *Flowers* 2 on our plants, golden yellow, nodding. *Peduncles* cylindrical, smooth, bearing a leaf-like bracte at the base of each. *Perianthium* deeply 6-parted, the leaflets scarcely connected at the base; each furnished with a round nectariferous pit above the base: outer ones about half the size of the inner ones, broadly lanceolate, sharp-pointed, greenish on the outside, the nectariferous pit some way above the base, nearly round and densely bearded inside,

the beard extending a little way up the leaflet; inner leaflets obovate, tapering to a long sharp point, densely bearded with purple hairs, particularly in the nectariferous pit, the upper part naked, and notched a little at the margin. *Stamens* 6; *filaments* flattish, smooth, yellow, inserted in the base of the perianthium below the leaflets: *anthers* oblong, attached to the filaments at their base: *pollen* yellow. *Ovarium* superior, oblong, bluntly 3-sided, 3-furrowed, many-seeded. *Stigmas* 3, nearly sessile, spreading, slightly furrowed on the upper side, the points reflexed.

The present genus is certainly very different from *FRI-TILLARIA* and *IMPERIALIS*; from the former it differs in its nectariferous pit being circular and bearded, and from the latter, from its situation, which is nearly half way up the leaflet of the perianthium, instead of being near the base, the habit is also entirely different; it is much nearer related to *CALOCHORTUS*, particularly to *C. elegans* of Pursh; but the species of that genus have no nectariferous pit on the leaflets of the perianthium: we have not seen any ripe capsule, or seeds, which would have been desirable; the *Fritillaria purpurea* of Kunth is doubtless another species of the same genus.

Our drawing was made from bulbs in flower, at the Nursery of Mr. J. C. Tate, of Sloane Street, in July last; the bulbs were given him by Mr. Peene, who received them from Mexico; amongst them were bulbs of another species, that has not yet flowered, and is probably the *purpurea*; like the other Mexican bulbs, it will succeed well in a warm border, planted from 4 to 6 inches deep in a light sandy soil; or if grown in pots, an equal mixture of light turfy loam, peat, and sand, is the most proper soil for it, and it may be protected in frames through the Winter.

The generic name is derived from *κυκλα*, a circle, and *βοθρος*, a well or pit, from the circular pit in each leaflet of the flower.



1. One of the inner leaflets of the Perianthium, showing the nectariferous pit, and its bearded surface. 2. One of the outer leaflets. 3. The 6 Stamens inserted in the base of the Perianthium. 4. Ovarium, terminated by the 3 Stigmas, that are slightly furrowed on the upper side.



Pub. by R. Street Nov. 12.28

Widdell & Son

IRIS tridentata.*Three-toothed Iris.**Natural Order.* IRIDEÆ. *Brown. prodr.* 302.*IRIS.* *Supra fol.* 68.

I. tridentata, imberbis, foliis lineari-ensiformibus acuminatis, caule tereti subunifloro foliis longiore, perianthii laciniis interioribus brevissimis inæqualiter tridentatis: denticulo medio acuminato, capsulis trigonis, stigmatibus basi utrinque unidentatis.

Iris tridentata. *Pursh fl. amer. sept.* 1. p. 30. *Rœm. et Schult. syst.* 1. p. 468. *Spreng. syst.* 1. p. 161. *Sw. hort. brit.* p. 393.

Iris tripetala. *Walt. flor. car.* p. 66. *Vahl enum.* 2. p. 153. *Nuttall gen. amer.* 1. p. 23. *Rœm. et Schult. syst.* 1. p. 480.

Leaves linearly ensiform, growing in a fan-shaped manner, from a foot to 18 inches in length, and four lines broad, tapering to the point, smooth, of a dark green, longitudinally striate with numerous lines, the margins smooth and transparent: stem-leaves shorter, curved inwards at the point, sheathing the stem at the base. *Flower-stem* leafy, smooth, a little compressed, slightly angular, 1 or 2-flowered. *Spatha* of 2 bractes, in our specimens two-flowered: outer bracte short, keeled, sharp-pointed: inner one nearly three times the length, a little inflated, acute, rounded at the back, inclosing the peduncle and ovarium, and extending to the end of the tube of the flower; inside of the bractes, in our specimen, there arises another narrower bracte, that encloses a younger flower. *Peduncle* smooth, slightly angular, about half the length of the outer bracte. *Ovarium* smooth, below the flower, slightly 3-angular, a little swollen in the centre between the angles. *Perianthium* tubular, of 6 segments: *tube* a little inflated, smooth: *segments of the limb* very unequal; outer ones broadly ovate, acute, not bearded, dark blue, veined with purple: 3 inner ones

very short and small, ligulate, veined, 3-toothed at the point ; the teeth short, middle one rather longest and acuminate. *Stamens* 3, inserted in the tube ; *filaments* smooth, rather succulent, a little flattened : *anthers* linear. *Style* smooth, triangular. *Stigmas* 3, sometimes increased to 4, petal-form, of a blue purple, hollow underneath, and 1-toothed on each side at the base, ribbed and furrowed on the upper side, through the centre, bifid at the point ; the segments broadly lanceolate and tapering to a point.

Our drawing of this handsome and singular species was made in July last, at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, and we observed it still continued to produce flowers the beginning of October. It is readily distinguished from all the other species, by the three inner segments of the perianthium being very small, and three-toothed at the point. We have preferred the name of *tridentata*, as much more appropriate and expressive than that of *tripetala*, which has otherwise the right of priority. It is a native of North America, and has not been long introduced, so that at present it is rather a scarce plant ; and the greatest quantity that we have seen of it is at the Nursery of Messrs. Whitley and Co. It thrives well in the open border of the garden, and is pretty readily increased by dividing at the root.

The genus is named from *ιρις*, the rainbow, from the various colours of the flowers in the genus.



1. Tube of the flower split open, showing the three small leaflets that are 3-toothed at the points, and the three Stamens between them. 2. Ovarium. 3. Style. 4. The three Stigmas, showing the cleft point, and the two teeth at the base of each.

*Edinburgh*

Bot. by R. J. W. H. W. 228

Walden

ECHEVERIA grandifolia.

Largest-leaved Echeveria.

Natural Order. CRASSULACEÆ. DC. *prodr.* 3. p. 381.

Tribus I. CRASSULÆ. Carpella inter se omninò libera, matura angulo interno dehiscentia.

ECHEVERIA. Calyx 5-partitus, sepalis folia referentibus erectis imà basi concretis. Petala 5, infernè coalita erecta crassa rigida ad nervum medium crassiora et ferè basi trigona acuta. Stamina 10 petalis breviora basi cum petalis concreta. Squamæ 5 breves obtusæ. Carpella 5 in stylos subulatos abeuntia.—Frutices carnosì Mexicani. Folia alterna caulina aut rosulata subopposita integerrima enervia. Flores secùs rachin aut secùs cymæ ramos sessiles, coccinei aut flavi. DC. *prodr.* 3. p. 401.

E. grandifolia, suffruticosa, ramis floriferis elongatis foliisque cœruleo-glauciscentibus, racemis ante anthesin incurvis; post anthesin erectis axillaribus foliosis plurifloris; floribus pedicellatis, laciniiis calycinis valde inæqualibus, foliis pinguibus acute mucronatis: inferioribus rosulato-confertis subpetiolatis obovatis basi canaliculatis: rameis sessilibus supra planis subtus convexis.

Echeveria grandifolia. Haworth in *Taylor's Philosophical Magazine and Annals.* Aug. 10, 1828.

Suffrutescent, succulent; the plant from which our drawing was made, about 6 inches in height, producing three flowering stems that were from four to five feet in length, and would be considerably longer before they have done blooming; the stems smooth, cylindrical, and as well as the leaves of a beautiful blue glaucous colour, producing flowers nearly their whole length. *Leaves* thick and succulent, smooth, terminated by a sharp horny spinous mucro: lower ones closely crowded, rosulate, or spreading round like an expanded rose, broadly obovate, attenuated at the base into a short petiole, channelled on the upper side at the base, and bluntly keeled underneath, obsoletely nerved, the margins smooth and purple: the lowermost a foot long, and 6 inches broad in the broadest part: those on the flower stems alternate, becoming gradually narrower upwards, sessile, or the lower ones with a short footstalk, of a beautiful blue glaucous colour, the upper side flat, and slightly convex below: upper ones narrowly obovate, or ovate, some of them approaching to lanceolate. *Racemes* axillary, leafy, slightly angular, smooth, of a blue glaucous colour, the lower ones 2 to 3-flowered, the upper ones many flowered, nodding or incurved before the expansion of the flowers, afterwards becoming erect. *Pedicles* about half an inch in length, slightly angular, of a glaucous blue colour. *Calyx* inferior, deeply 5-cleft, the segments leaf-like, succulent, straight, lanceolate, acute, mucronulate, very unequal in size, some three times

larger than the others. *Corolla* of 5 petals, 5-angular, connected below, straight, taper-pointed, flesh-coloured and glaucous outside, the mouth rather contracted, inside yellow. *Petals* keeled, fleshy, swollen at the base, which is occasioned by the 5 protuberances at the base of the carpella. *Stamens* 10, five connected to the petals a little above the base, and 5 alternate with them: *filaments* smooth, slender, attached to the base of the-anthers. *Scales* or *protuberances* 5, fleshy and obtuse, flattened towards the petals. *Carpella* 5, conical, smooth, each terminated in a subulate Style, and capitate Stigma, the stigmas fimbriate, and all facing outwards. *Seeds* very numerous.

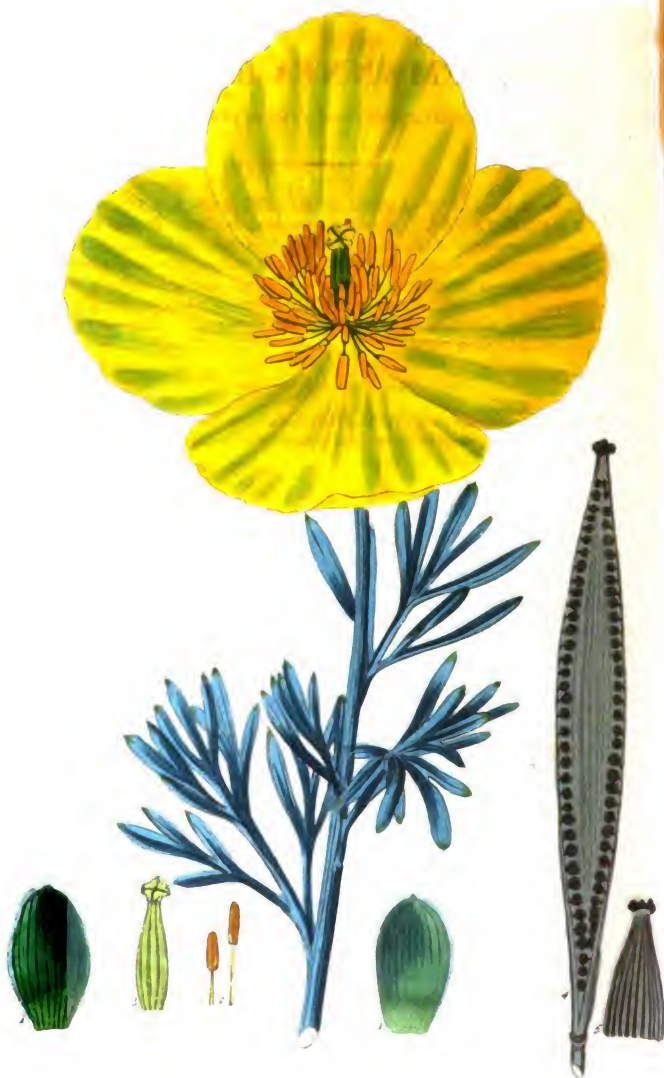
Our drawing of this new and magnificent plant was made from a fine specimen in the choice collection of rare exotics cultivated in the conservatory of the Colissæum in the Regent's-park, in September last; we have seen the plant again since, when it was much finer than when our drawing was taken, the upper part being lengthened out into pendulous racemes, that become erect as the flowers expand, and remains in full bloom for a long time; of this collection we shall give a more particular account at some future opportunity.

The present subject is a native of Mexico, and was first raised from seed by Mr. Tate, of the Sloane Street Nursery; the seed was sent home by G. Ackerman, Esq. to his father in the Strand, who presented it to Mr. Tate. A singular character belonging to this genus is, that the leaves are slightly attached to the stems, though they appear firmly attached; but by moving them upwards at the back, it will be seen that they are quite loose, and come off easily, as if they were only stuck on; those, if dried a little, and then planted, will soon root and produce young plants; there are now five species of the genus known, all of which have lately been described by Mr. Haworth, in an account of the genus in the Philosophical Magazine and Annals. We find all the succulent plants from Mexico, and also from the Canary Islands, thrive well and flower abundantly by the side of a wall in a southern aspect, planted in light sandy soil, and covered by a mat or any other loose covering in frosty weather.

The genus was named by M. Decandolle after Echeveria, Botanical painter, of Mexico; the name on the Mexican drawings was used for two other genera, *Fouquiera* and *Bronnia* of Kunth.

◆◆◆

1. Calyx, showing the unequal segments. 2. Corolla spread open, showing the insertion of the 10 Stamens; at the base of every other one is a fleshy obtuse scale or protuberance. 3. The 5 Carpella, each terminated by the smooth Style and capitate Stigma.



Edm. F. D.

Pub. by R. Ward, Nov 1828

Woodward & Co.

HUNNEMANNIA fumariæfolia.

Fumitory-leaved Hunnemannia.

Natural Order. PAPAVERACEÆ.—*DC. prodr.* 2. p. 67.

HUNNEMANNIA. *Sepala* 2, concava, decidua. *Petala* 4. *Stamina* numerosa. *Antheræ* lineares. *Ovarium* oblongum. *Stylus* brevis, persistens. *Stigma* peltatum, 4-sulcatum, obsolete 4-lobum. *Capsula* siliquæformis compressiuscula 10-costata unilocularis bivalvis: valvis ad margine polyspermis. *Semina* subglobosa extus punctato-scabra, albuminosa. *Albumen* cartilagineum. *Embryo* rectus, radicula ad hilum versa.

H. fumariæfolia, caule erecto, foliis decompositis triternatisque glaucescentibus; foliolis linearibus obtusiusculis, floribus solitariis terminalibus.

Stem erect, frutescent at the base, branching: *branches* erect, smooth, slightly glaucous, longitudinally lined with paler lines, which extend strongly into the peduncle. *Leaves* resembling those of some species of *Fumaria*, alternate, generally triternate, or nearly so, the lower ones compound, smooth, slightly glaucous, the upper ones not quite so much divided. *Leaflets* linear, rather broadest, and blunt towards the point, where they terminate abruptly in a very short acute point. *Petioles* flat on the upper side, and slightly keeled below, rather broadest at the base, smooth, and glaucescent. *Peduncle* terminal, solitary, one-flowered, smooth, cylindrical, longitudinally striped. *Flower* large, spreading open when expanded, golden yellow, and very fragrant, the scent resembling ripe apples. *Calyx* of 2 deciduous sepals, that are ovate, acute, concave, smooth, longitudinally striate, and dropping off as soon as the flower expands. *Petals* 4, a little undulate at the margins, the two outer ones rather largest, nearly orbicular, but narrowing a little to the base, much veined at the back, the veins branched. *Stamens* numerous, at first surrounding the ovarium,

but beginning to spread as soon as the flower is expanded : *filaments* slender, yellow : *anthers* linear, two-lobed, orange-coloured, bursting by the sides for the exclusion of the pollen. *Ovarium* oblong, smooth, 10-striped, about the length of the stamens. *Style* distinct, very short. *Stigma* peltate, nearly flat, slightly 4-sulcate, and obsoletely 4-lobed. *Capsule* a long flattish pod, strongly 10-ribbed, and channelled between the ribs, gradually attenuated from the middle to both ends, one-celled, 2-valved, many-seeded, the seeds attached to the margins of the valves. *Seeds* nearly globular, a little larger than a white mustard seed, rough, the roughness occasioned by innumerable small dots. *Albumen* brown, of a hard cartilaginous substance.

Our drawing of this beautiful new plant was taken in July last, from fine specimens received from the choice collection of Robert Barclay, Esq. of Bury Hill, where it was raised last year from seed received from Mexico ; we are not certain whether it will prove biennial, or frutescent, but the plant is now thriving well in the flower border, and is above three feet high, and branching ; it has also become of a woody texture at the base, and has continued to produce its fragrant flowers ever since, and has ripened seeds. It is certainly a very distinct genus, apparently nearest related to *STYLOPHORUM* of Nuttall, which is considered a section of *MECONOPSIS* by M. Decandolle. We have named it in compliment to our friend, Mr. John Hunnemann, who, through his numerous correspondents in various countries, has been the means of introducing a greater number of plants to our collections than almost any other individual, and we are somewhat surprised that a genus has never been named after him before.

If seeds of the present plant are sown the latter end of Summer, and the plants receive a little protection through the Winter, we believe they would flower the following Summer or Autumn ; but if not sown till Spring, very few of them will flower before the following Spring or Summer.



1. The two deciduous Sepals. 2. Two of the Stamens, to show their different lengths. 3. Ovarium, showing the ribs, terminated by a very short Style, and flat, slightly 4-lobed Stigma, with 4 furrows on the upper side. 4. Ripe Capsule laid open, to show the insertion of the Seeds. 5. Back view of the same, showing the 10 ribs.



Act. A. 1882. 1m. 1878

Walden Co.

HIBISCUS roseus.

Rose-coloured Hibiscus.

Natural Order. MALVACEÆ. *DC. prodr.* 1. p. 429.

HIBISCUS. *Calyx* cinctus involucello sæpius polyphylo, rariùs foliolis paucis aut inter se coalitis. *Petala* hinc non auriculata. *Stigmata* 5. *Carpella* in capsulam 5-locularem coalita, valvis intùs medio septiferis, loculis polyspermis aut rariùs monospermis. *DC. prodr.* 1. p. 446.

Sect. VI. ABELMOSCHUS. *Carpella* polysperma. *Semina* glabra aut in dorso lineà subvillosà. *Corollæ* expansæ. *Involucella* foliolis 8-15 integris constantia.

§. 2. *Caule inermi.*— ** *Species perennes.*

H. roseus, foliis cordatis dentatis subtrilobis subtùs cano-tomentosis, pedicellis axillaribus à petiolo liberis unifloris suprà medium articulatis. *DC. prodr.* 1. p. 450.

Hibiscus roseus. *Thor. in Lois. fl. gall.* 2. p. 434. *DC. fl. fr. suppl.* p. 626. *Spreng. syst.* 3. p. 105.

Rosa Moscheutos Plinii. *Moris. hist.* 2. p. 532. s. 5. t. 19. f. 6.

Root perennial, producing several stems from the ground. *Stems* erect, simple, 3 or 4 feet high, slightly angular, clothed with numerous stellate bunches of very short hairs. *Leaves* alternate, or rarely opposite, cordate, tapering to a long slender point, slightly 3-lobed and toothed with numerous blunt rounded teeth, very soft to the touch, feeling like soft velvet, the upper side clothed with the little bunches of short hairs like the stem, that, at length, wear off; the margins also thickly covered with the same: underneath densely clothed with a close short white tomentum, the nerves underneath branching and covered with the same. *Petioles* slightly flattened on the upper side and rounded below, thickly covered with little bunches of short hairs. *Flowers* axillary, very large and handsome, of a delicate rose-colour. *Peduncles* about the length of the pedicles, jointed above the middle, also clothed with little bunches of short hairs, the upper part above the joint thickest. *Involucre*, or *outer calyx*, of 10 to 12 leaflets, that are linear, acute, densely tomentose, all connected in a ring at the base. *Calyx proper* tubular, campanulate, 5-toothed, also clothed with a short dense tomentum, and striate or veined with numerous longitudinal ribs, or veins; teeth ovate, acute.

Corolla of 5 petals, slightly connected at the base, before expansion spirally twisted, when expanded spreading, of a delicate rose colour, obovate, and each veined with 10 to 12 longitudinal veins that are pennately branched. *Stamens* numerous, connected in a column that branches out into short filaments all the way from the base upwards, surrounding the style: *anthers* kidney-shaped: *pollen* composed of numerous pale yellow grains. *Ovarium* 5-lobed, 10-furrowed, smooth and glossy. *Style* a little longer than the stamens, 5-parted at the end; the segments thickly clothed with long spreading hairs, and each terminated by a broad flat capitate stigma.

From Morison's figure and account, there can be no doubt but the present plant was the one meant by him, particularly as he mentions it as having been received from Barbary, where, as well as Italy, it is a native; according to him, it was cultivated in the Paris gardens, as long ago as the year 1644. The seeds from which the present plants were raised, were collected by the Honourable W. Strangways, growing wild in Italy, and sent by him to A. B. Lambert, Esq., in whose splendid collection, at Boyton, they were raised, and this Summer and Autumn were covered with their large rose-coloured flowers, which made a very handsome appearance; the stems were upright, and from 3 to 4 feet high, each producing several flowers, and each plant throwing up several stems. Mr. Lambert informs us that it is quite hardy, but requires to be grown by the side of a pond, or in some moist situation, otherwise it will not be likely to flower. It may be increased by seeds, or by dividing at the root. Our drawing was made from fine specimens sent to us in September last.

The present genus will no doubt be hereafter divided into several distinct genera; and the present species, with *H. aquaticus*, *Moscheutos*, *palustris*, *incanus*, *speciosus*, *grandiflorus*, and *militaris*, with some other species, will form a very natural genus of themselves, for which *MOSCHEUTOS* may be retained for a generic name.

The generic name is from *βίσκος*, that was originally used for the Marsh Mallow, *Althæa officinalis*, and some other malvaceous plants.



1. The column of Stamens. 2. Ovarium, terminated by the bottom of the Style.
3. The upper part of the Style, divided into 5 segments that are hairy, and each terminated by a flat capitate Stigma.



Delphinium L.

Pub. by R. Forrest Dec. 1825

Wendland L.

MORICÁNDIA arvensis.

Corn-field Moricandia.

Natural Order. CRUCIFERÆ. *DC. syst. veg. 2. p. 139.*

Subordo III. ORTHOPLOCEÆ. Cotyledones incumbentes, conduplicatæ, nempe longitudinaliter medio plicatæ et radiculam in plicaturâ foventes, sæpè apice emarginatæ. Semina sæpiùs globosa. Stylus sæpè variè ampliatus basi loculatus et seminifer, loculo stylari semper indehiscente.

Tribus 12. Brassicæ seu Orthoploceæ Siliquosæ. Siliqua elongata valvis longitudinaliter dehiscentibus, septo lineari. Semina globosa. Cotyledones conduplicatæ. *DC. syst. 2. p. 581.*

MORICANDIA. Calyx clausus, basi bisaccatus. Petala unguiculata, limbo obovato patente integro. Stamina libera, edentula. Glandula inter stamina lateraliter et ovarium. Siliqua compressa aut compresso-tetragona, valvis nempe nunc planis nunc subcarinatis, elongata, linearis, bilocularis, bivalvis, septo membranaceo, stylo compresso-conico aspermo aut rariùs 1-spermo. Semina ovata, parva, biseriata. Cotyledones conduplicatæ.—Herbæ annuæ aut biennēs perennesve basi suffrutescentes, glabræ, sæpiùs subglaucæ. Caules teretes, albidi, erecti, ramosi. Folia crassiuscula. Racemi terminales, laxi. Pedicelli filiformes, ebracteati, etiam fructiferi erecti. Flores majusculi, purpurascens. *DC. syst. veg. 2. p. 626.*

M. arvensis, siliquis subtetragonis, foliis caulinis cordato-amplexicaulibus integerrimis. *DC. syst. veg. 2. p. 626. Prodr. 1. p. 221.*

Moricandia arvensis. *Spreng. syst. 2. p. 914. Swt. hort. brit. p. 20.*

Brassica arvensis. *Linn. mant. 95. All. flor. ped. n. 966. Lum. dict. 1. p. 798. Hoffm. germ. 241. Willd. sp. pl. 3. p. 546. Sibth. Flor. græc. t. 644. Gmel. fl. bad. 3. p. 93.*

urritis arvensis. *Brown hort. kew. ed. 2. v. 4. p. 108.*

Brassica sylvestris fabariæ foliis. *Bocc. sic. p. 49. t. 25. f. 3. 4.*

Biennial, or sometimes lasting three years. *Stem* erect, much branched, cylindrical, suffrutescent at the base : *branches* slender, glaucous. *Leaves* glaucous, rather succulent ; lower ones a little repand or waved, obovate, attenuated towards the base ; upper ones cordate, tapering to the point, but scarcely acute, clasping the stem, entire. *Racemes* elongated, loose, several-flowered. *Pedicels* slender, a little flattened, glaucous, from 2 to 4 lines long, but scarcely

so long as the calyx. *Flowers* elegant, of a purple lilac. *Calyx* of 4 sepals, the 2 inner ones narrowest, linear, the outer ones concave, both inflated at the base. *Petals* 4, spreading; the unguis slender, about the length of the calyx; the lamina obovate, flat, of a purple lilac, veined with numerous branching purple veins, that extend all over them. *Stamens* 6, inserted in the receptacle, 2 shorter than the others: *filaments* smooth: *anthers* a little exserted: *pollen* pale yellow. *Seed-pod* slightly quadrangular, bearing the seeds in 2 rows. *Style* four-sided, the sides flat. *Stigma* thick, notched at the point, pubescent.

This elegant plant is a native of the South of Europe, Barbary, and the Levant, and has been introduced to our gardens ever since the year 1739, though it is yet very rarely to be met with. For the opportunity afforded us of giving the present figure, we are obliged to Messrs. Charles, James, and Peter Young, Nurserymen, of Epsom, from whose extensive collection we received fine flowering specimens of it, in full bloom, in August last. It is well deserving a place in every collection, both from the beauty of its flowers, and its elegant growth, and glaucous leaves. It requires no particular care, except to be planted in a warm open border of the flower-garden, in rich soil; and should the Winter be very frosty, it will be best to shelter it a little with the covering of a pot placed over it, or a little straw or fern, while the weather is severe; it will then flower abundantly and ripen its seeds, which should be sown early in Spring, and as soon as the plants have two or three leaves, they should be transplanted where they are to remain.

The genus was named by M. Decandolle, in compliment to S. Moricand, an Italian Botanist, and author of the *Flora Veneta*.



1. Calyx. 2. One of the Petals, to show the slender unguis at the base. 3. The 6 Stamens, 2 of them shorter than the others. 4. Stamen detached, to show the gland at the base. 5. Style terminated by the Stigma. 6. Pod, opening, to show the seeds.



Pub. by K. & W. 1838

W. & A. 1838

POTENTILLA Russelliana.

Russell's hybrid Cinquefoil.

Natural Order. ROSACEÆ. *Juss. gen.* 334.

Tribus II. DRYADEÆ. Calyx 5-fidus (rarius 4-fidus aut pluridivisus,) per æstivationem valvatus, sæpè extùs bracteolas lolulosve exteriores lobis alternos gerens. *Petala* tot quot cal. lobi veri et iis alterna. *Stamina* numerosa, rariùs 5 et tunc lobis calycis opposita, apice tubi calycini expansi inserta. *Carpella* numerosa, rariùs pauca congesta, toro inserta, inter se et à calyce libera, et latere prope apicem stylifera. *Styli* introrsùm sulco-notati in stigma obliquum expansi. *Akenia* uniovulata omninò libera, exsucca aut baccata. *Semen* solitarium erectum aut inversum, exalbuminosum. *Embryo* rectus, cotyledonibus planiusculis.—*Herbæ aut frutices*; foliis sæpiùs *compositis*; stipulis 2 *lateraliter petiolo adnatis*. DC. prodr. 2. p. 549.

POTENTILLA. Supra fol. 124.

P. Russelliana, villosopilosa, caule ramoso diffuso, foliis radicalibus petiolatis ternatis quaternatis quinatisve; caulinis ternatis: foliolis ovatis obovatisve obtusis inciso-serratis penninerviis subtus subsericeis, stipulis adnatis ovato-lanceolatis acuminatis, laciniiis calycinis lanceolatis acutis, petalis obcordatis.

Root perennial, herbaceous. *Stems* spreading, much branched, thickly clothed with long shaggy hairs, from a foot to 18 inches in length. *Leaves* very variable, petiolate; the lower ones bearing three, four, or five leaflets, all intermixed; stem ones ternate, with shorter footstalks, nearly sessile: *leaflets* ovate, or obovate, some of them unequal at the base, deeply serrate, the teeth bluntish, penninerved, the nerves branched, and reticulately veined, furrowed on the upper side, very hairy on both sides, and clothed with a thin white silky tomentum underneath, the teeth terminated with short tufts of woolly hairs. *Petioles* slightly furrowed on the upper side and rounded below, more or less tinged with purple, and densely clothed with long shaggy hairs. *Stipules* joined to the base of the footstalks, ovately lanceolate, taper-pointed, hairy and fringed; those on the lower leaves scarious, but on the stem leaves much larger, green, and of the same substance as the leaves. *Flower-stems* branching, purple, thickly clothed with shaggy hairs, as are the peduncles and calyx. *Flowers* terminal, and in

the forks of the branches, very large and handsome, bright scarlet. *Peduncles* variable in length, nearly cylindrical. *Bractes* 5, attached to the calyx, broadly lanceolate, acute, very hairy, and the points terminated in a tuft of hairs, larger than the segments of the calyx, spreading when the flower is expanded. *Calyx* deeply 5-parted; the segments broadly lanceolate, acute, hairy, more or less of a reddish purple. *Petals* 5, spreading, broadly obcordate, imbricate, of a bright scarlet, with a dark base, and veined with dark veins. *Stamens* 20, inserted in the calyx, and surrounding the carpella, unequal in length: *filaments* smooth, purple: *anthers* generally sterile. *Carpella* numerous, smooth and glossy. *Styles* numerous, purple, each terminated by a small blunt stigma.

The present splendid flowering plant is of hybrid origin, being intermediate between *P. formosa*, and *P. atropurpurea*, varying with leaves containing 3, 4, and 5 leaflets. It was raised from seed last year, by Mr. W. Russell, at his Nursery, at Battersea, who has employed a great deal of time with the plants of this genus, to try to obtain something handsome from them; and his labour has been so far crowned with success, in obtaining the present handsome plant, which may be considered one of the most splendid hardy perennial plants that need be cultivated in the open borders of the flower-garden, and is well deserving a place in every collection; neither of its parents can come near it in brilliancy of colour, which is of a glossy scarlet. It is quite hardy, and thrives well in the open borders, in the common garden soil, and may be increased by dividing at the root, but is not likely to ripen seeds, as the anthers are mostly all without pollen, so that it is not likely soon to become common. Mr. Russell has already increased it; and informs us that he is now selling the plants at one guinea each. Our drawing was made from his original plant, in July last.

Potentilla is derived from *potens*, *puissant*, from the powerful medicinal effects attributed to the common Cinquefoil, *P. reptans*, as a vulnerary medicine.



1. Calyx, with the 5 bractes at the base of the segments. 2. The 20 Stamens of various lengths, the Anthers yellow, but mostly void of pollen. 3. The bunch of Carpella, each bearing a smooth purple Style, and small blunt Stigma.

*Edmisch. Bot.**Tab. by R. Sweet. Dec. 1818.**Widdow. Bot.*

CAMPANULA dichotoma.

Forked Bell-Flower.

Natural Order. CAMPANULACEÆ. *Brown prodr.* 1. p. 559.

CAMPANULA. *Calyx* 5-(rare 4-) fidus. *Corolla* campanulata, 5-fida. *Filamenta* basi dilatata. *Stigma* 3-2-lobum. *Capsula* 3-2-locularis, sæpius infera foraminibus lateralibus aperiens, nunc apice supero valvata.—Herbæ rarò Suffrutices. *Folia alterna, nunc opposita.* *Inflorescentia varia.* *Flores distincti.* *Brown prodr.* 1. p. 560.

Sect. II. MEDIA. *Calycis sinus reflexi basi producti: receptaculum nectariferum: capsula poris lateralibus dehiscens.*

C. dichotoma, foliis oblongis dentatis sessilibus cauleque angulato superne dichotomo hirsutis, floribus cernuis, capsulis 6-locularibus. *Spreng. syst.* 1. p. 734. n. 124.

Campanula dichotoma. *Linn. amæn. acad.* 4. p. 306. *Spec. pl.* p. 237. *Lamarck enc. meth.* 1. p. 586. *Smith prodr. flor. græc.* 1. p. 141. *Sibth. flor. græc. t.* 211. *Ræm. et Schult. syst.* 5. p. 141.

Annual. *Stem* angular, from 6 inches to a foot in height, much branched, the branches angular, spreading, hispidly hairy, forked at the ends, which terminate in flowers. *Leaves* sessile, oblong, or ovate, scarcely acute, toothed with small short teeth, hispidly hairy on both sides, and fringed at the margins, underneath strongly nerved, the nerves nearly parallel. *Flowers* nodding in the forks of the branches, and terminal, of a purplish blue. *Peduncles* hispidly hairy, the hairs long and spreading. *Calyx* 5-cleft, hispidly hairy and fringed, the sinus between the segments lengthened out to a sharp point, concave, and bent backwards; the segments lanceolate, and tapering to a long slender point, as long as the tube of the corolla. *Corolla* campanulate, the tube rather slender, 5-ribbed and striate; limb 5-cleft, spreading; the segments broadly ovate, acute, furrowed on the upper side down the middle. *Stamens* 5,

inserted in the calyx ; *filaments* dilated below and tapering upwards, fringed at the edges, and attached to the base of the anthers ; *anthers* long, linear, 2-lobed, bursting before the expansion of the flower. *Style* thickly clothed with spreading hairs. *Stigma* 3-cleft, the segments linear, at first erect, afterwards more or less spreading.

This very pretty and distinct annual species, is a native of Sicily, Barbary, and Greece, and has been but lately introduced to our gardens. The only collection in which we have noticed it, is that of Robert Barclay, Esq., of Bury Hill, from whence we received fine flowering specimens in August last ; we also received it from the same collection last year, but the specimens did not then arrive in a proper state for drawing. It is certainly a great acquisition to our collection of hardy annuals, requiring nothing but to be sown in Spring, in the open borders, where they will thrive and ripen their seeds. A rich light soil suits them best, as they will then grow stronger and produce larger flowers than when sown in poorer soil.

The generic name is derived from *campana*, a bell, from the bell-shaped flowers of the genus.



1. Calyx. 2. The 5 Stamens. 3. Ovarium, terminated by the hairy Style, and 3-cleft Stigma.



Genista sp.

Fig. by R. Brown Jan. 1829.

Waddell & Co.

HEIMIA salicifolia.

Willow-leaved Heimia.

Natural Order. LYTHRARIÆ. *DC. prodr. 3. p. 75.*

Tribus I. SALICARIÆ. Calycis lobi per æstivationem plus minus distantes aut subvalvati. Petala plurima, calycibus lobis alterna et ad eorum divisiones apice tubi inserta, interdum nulla. Stamina demissius tubo inserta. Semina aptera.—Frutices aut herbæ. *DC. prodr. 3. p. 75.*

HEIMIA. Calyx basi bibracteolatus, hemisphærico-campanulatus, lobis 6 erectis, sinibus 6 alternis patentibus corniformibus. Petala 6 lobis erectis calycinis alterna. Stamina 12 subæqualia. Ovarium sessile globosum 4-loculare. Capsula calyce oblecta. Semina minuta aptera.—Frutices *Americani glabri.* Pedunculi *uniflori calyce breviores.* Flores *flavi.* *DC. prodr. 3. p. 80.*

H. salicifolia, foliis oppositis aut raro ternis: summis sæpè alternis brevissimè petiolatis lanceolatis acutis basi angustatis, petalis rotundo-obovatis.

Heimia salicifolia. *Link enum. pl. hort. ber. 2. p. 3. Link et Otto abb. ber. 63. t. 28. DC. prodr. 3. p. 89.*

Nesæa salicifolia. *Humb. Bonpl. et Kth. nov. pl. gen. et spec. amer. æquin. 6. p. 192. Kth. synops. 3. p. 452. Spreng. syst. 2. p. 455. Swt. hort. brit. p. 151.*

A handsome small bushy Shrub: *branches* spreading, angular, smooth. *Leaves* generally opposite, sometimes on strong shoots in threes, and on some of the branches mostly alternate, scarcely petiolate, lanceolate, acute, entire, attenuated to the base, smooth on both sides. *Flowers* yellow, axillary, on very short peduncles, that are shorter than the calyx. *Calyx* smooth, with two small bractes at the base, one on each side, hemispherically campanulate, striated, terminated with 6 erect sharp-pointed lobes, the sinuses between the lobes acute, and spreading out like horns, about the length of the upright lobes, and like them sharp-pointed. *Petals* 6, broadly

and roundly obovate, somewhat wrinkled, inserted in the mouth of the calyx, and alternate with the upright lobes. *Stamens* 12, nearly equal: *filaments* very slender, smooth, inserted in the base of the calyx, and exerted beyond the mouth: *anthers* two-lobed, the lobes divaricate. *Ovarium* sessile, globular, smooth, 4-celled, many-seeded. *Style* erect, smooth, longer than the stamens. *Stigma* capitate. *Capsule* enclosed tight in the calyx. *Seeds* small, and not winged.

The present genus is readily distinguished from all to which it is related by its four-celled capsule; the specimens from which our drawing was made, were kindly communicated to us from the rich and extensive collection of Robert Barclay, Esq. of Bury-hill, where it forms a handsome small bushy evergreen shrub, and continues to flower a great part of the Summer, and till late in Autumn: it is a native of Mexico, and has been cultivated several years in the Botanic garden at Berlin; but the present plant was raised from seed received from Mr. F. Sello, who sent them from Brazil: Mr. Barclay has also since raised plants of it, from seeds received from Mexico, and others from seeds received from Germany. We find it succeeds well, and grows very fast in a warm border by the side of a wall, in a southern aspect, but will probably require the protection of a mat, or some other slight covering, in very severe weather; we have seen plants of it now, the second week of December, that have stood several sharp frosts without being in the least injured, and are thriving as well as if it was Summer, so that it cannot be very tender; it thrives well in the common garden soil; and young cuttings, planted under hand-glasses, strike root readily; it may also be raised from seeds.

The genus was named by Dr. H. F. Link, in honour of Dr. Heim, a celebrated physician at Berlin, and a zealous collector of plants, especially mosses; he was the first discoverer of *Gynóstomum Heimii*, which is named after him.



1. Calyx. 2. The same spread open to show the insertion of the six petals.
3. The 12 Stamens. 4. Ovarium terminated by the Style and capitate Stigma.
5. Ovarium cut across to show the four cells.



Printed by J. Smith, Jan. 1829

Waller del.

GEORGINA *crocata*.

Saffron-coloured Georgina.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Subordo VI. *HELIANTHÆ.* Kth. synops. 2. p. 463.

GEORGINA. *Involucrum* duplex: exterius polyphyllum; interius octopartitum. *Receptaculum* planum, paleaceum. *Flosculi disci* tubulosi, hermaphroditi; *radii* ligulati feminei aut neutri. *Akenia* calva.—*Herbæ foliis oppositis, pinnatipartitis; floribus terminalibus, longe pedunculatis: radio purpureo, violaceo, lilacino, aurantiaco, coccineo, flavo et albo.* Swt. in *Florist's Guide*, fol. et t. 65.

G. crocata, caule erecto crasso cavo superne ramoso: ramis glabris subglaucescentibus fistulosis, foliis inferioribus 2-3-pinnatis: rachi foliorum nuda; foliolis ovatis acuminatis obtuse serratis glabris: nervis subtus pilosiusculis, involucri foliolis exterioribus ovatis subreflexis, akeniis linearibus.

Dahlia crocata. *Sesse. ex Lagasca elench. hort. reg. mad. an.* 1805. *Nov. gen. et spec.* p. 31.

Dahlia fulgens. *Hortulanorum.*

Root perennial, producing numerous tubers, that are oblong, attenuated at both ends, unequal in size and form. *Stems* several from the same root when of a sufficient size, erect, from 6 to 10 feet high, branching only towards the point, of a thick swollen appearance, but quite hollow within, the outsides being very thin, so that they are easily broken down with the wind, or sometimes even with their own weight, quite smooth, slightly glaucescent, and more or less tinged with purple: *branches* erect, smooth, slightly glaucescent, purplish. *Leaves* opposite, petiolate, the rachis not winged: lower ones 2-3-pinnate: stem ones less divided: upper ones near the flowers simply pinnate: *leaflets* ovate, taper-pointed, and slightly tapering to the base, bluntly serrated, the taper points entire; teeth bent a little inwards, margins rough, occasioned by little rigid gland-like transparent hairs, the points of which bend inwards, underneath pinnately or feather-nerved, and reticulately veined, the nerves and veins thinly hairy. *Petioles* naked, connected at the base, where they are widened or dilated, channelled on the upper side and rounded below, smooth, and more or less tinged with purple. *Flowers* terminating the branches, of a brilliant saffron colour, or orangy scarlet. *Peduncle* long, cylindrical, striated, smooth, and glossy. *Involucre* of 2 series, the outer series consisting of 7 or 8 leaflets, that are ovate, attenuated to the base,

scarcely acute, longitudinally striated, smooth and glossy, spreading, or a little reflexed: inner series 8 to 10-parted, the segments spreading, and supporting the rays, oblong, obtuse, membranaceous, with a fleshy base. *Receptacle* paleaceous, the chaff similar to the segments of the inner series of the involucre. *Rays* 8 to 10, spreading, sterile, or producing no style or stigmas. *Florets of the disk* fertile, tubular, 5-toothed; teeth short, erect. *Stamens* 5: *filaments* distinct, smooth: *anthers* connected into a tube. *Style* smooth, exserted. *Stigma* 2-parted, the segments fimbriate, spreading. *Akenia* or *seed* linear, flat, pubescent, in which it differs from *G. Cervantèsii*, which is spatulate.

This very distinct species was pointed out to us this Autumn by Don Mariano Lagasca, at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, as his *Dahlia crocata*; it is readily distinguished from all the other species by its hollow fistulous stem, which is scarcely branched, and by which it is readily distinguished from *G. coccinea* and *G. Cervantèsii*, and is nearer related to *G. rosea*, (the *Dahlia rosea* of Cavanilles,) a species also with bipinnate leaves, and very different from the *rosea* of the gardens, which is nothing but a variety of *G. variabilis*: we have already, in the "Florist's Guide," given our reason for adopting Willdenow's name of *GEORGINA* in preference to *DAHLIA* of Cavanilles, there being a genus from the Cape named *DAHLIA* before by Thunberg, and Willdenow's name is adopted by Decandolle, Kunth, and most of the continental Botanists, and it is most proper, as Thunberg's genus has the right of priority.

The present species was raised at Madrid, in the year 1804, from Mexican seeds sent by D. Sesse, according to Lagasca; it requires the same treatment as the more common sorts, to be planted in the open borders in April, to be taken up as soon as the frost sets in, and to be kept dry and out of the reach of frost through the Winter; a poor sandy soil suits it best, as in that it will grow dwarfer, and produce more flowers; it will require to be well secured by being tied up to a strong stake, as its stems are easily broken down by the wind; it is readily increased by dividing at the root, or by seeds.

The genus was named by Willdenow, in compliment to J. G. Georgi, a Russian Botanist, and author of some valuable works on the botany of Russia. *Dahlia* was in compliment to A. Dahl, a Swedish Botanist.



1. Capitulum split through the middle to show the large chaffy scales. 2. One of the Rays, which is sterile and without the rudiment of a Style. 3. Floret of the disk spread open, showing the 5 nerves alternating with the teeth. 4. The 5 Stamens, the filaments distinct and the anthers united. 5. Style terminated by a bifid fringed Stigma. 6. Akenia or Seed. 7 The hollow stem cut through, to show the thinness of the outside.



F.L. Smith Del.

Pub. by R. Sweet Jun. 1829

Walden

LUPINUS canaliculatus.

Channelled-leaved Lupine.

Natural Order. LEGUMINOSÆ. *Juss. gen.* 345.

Subordo I. PAPILIONACEÆ.—*Tribus V.* PHASEOLEÆ. *Supra fol.* 142.

LUPINUS. *Supra fol.* 130 et 261. .

L. canaliculatus, fruticosus totus sericeo-tomentosus, floribus alternis pedicellatis bracteolatis, calyce appendiculato labio superiore bifido: inferiore integro acuminato, foliolis 8-9 linearibus canaliculatis obtusis subtus sericeo-tomentosis, ovario hirsutissimo.

Stem frutescent, erect, much branched; the plant from which our drawing was taken, was between 3 and 4 feet high, though only raised from seed the latter end of May last; *branches* erect, densely clothed with a short silky close-pressed tomentum. *Leaves* alternate, digitate, consisting of 8 or 9 leaflets, which spread round horizontally, and are linear, ending in a blunt point, nearly equal in breadth from the base to the point, deeply channelled on the upper side, and keeled below, the upper side smooth or very slightly pubescent, of a pale green, approaching to glaucous; underneath clothed with a silky tomentum. *Petioles* rather slender, channelled on the upper side and convex below, widening at the base, which is slightly decurrent on each side down the stem, thickly clothed with rather a loose silky tomentum. *Stipules* linear, of the same shape as the leaflets, but smaller, narrower and not channelled, the points a little reflexed, also clothed with a silky tomentum, fringed at the margins with longish weak hairs, and the points terminated with a small bunch of the same sort. *Racemes* terminal, the stem clothed with a short woolly pubescence. *Flowers* bright blue, alternate, bracteate. *Bractes* deciduous, longer than the bud before expansion, which they enclose, lanceolate, taper-pointed, concave inwards, clothed with a short tomentum, and fringed at the margins, tinged with blue. *Pedicles* short, downy. *Calyx* two-lipped, tinged with blue, and clothed with loose woolly hairs: *upper lip* short, deeply 2-cleft, the segments ovately

lanceolate, oblique, acute: *lower lip* entire; the segment very long, lanceolate, taper-pointed; between the upper and lower lip are 2 small short appendages, attached to the calyx just below the opening, and resembling two small segments. *Vexillum* roundly oval, keeled at the back; the sides a little reflexed, of a bright blue, with darker veins, that branch all over it. *Wings* scarcely so long as the vexillum, oval, oblique, bluntly rounded, hollow inwards, blue, marked with numerous darker veins, eared at the base on one side, with a short unguis on the other. *Keel* slender, sharply keeled, and ending in a sharp point, white below, the point of a blue black. *Stamens* 10, the filaments all connected into a tube, but distinct at the points, inserted in the base of the anthers: *pollen* golden yellow. *Ovarium* densely clothed with woolly hairs. *Style* smooth, ascending. *Stigma* capitate, slightly 2-lobed, bearded. *Pod* densely woolly, 6 to 8 seeded.

The present handsome and stately plant, is another interesting addition to our frutescent Lupines; it was raised from seed in May last, in the garden of Robert Barclay, Esq. of Bury-hill; the seeds were given him by Mr. Borrer, who received them from Buenos Ayres, where they had been collected from a cultivated plant in a garden, so that it is probably not a native there; we believe it to be an undescribed species, as we can find no description that agrees with it: we would recommend its being planted in a warm sheltered situation; and then if the Winter should be severe enough to kill it back, it would throw up branches from the base, particularly if planted pretty deep. Mr. Cameron informed us, the beginning of December, that the plant was still quite green in the open border, and a few flowers on it; he observes that it strikes readily from cuttings, and when the plants become strong, they will flower all the Summer.

Lupinus is a Latin name of doubtful origin, said to have been derived from *lupus*, a wolf, because it devours the ground; it was also given to a kind of pulse, of a most bitter and harsh taste.



1. Calyx, showing the small appendage between the segments. 2. Vexillum. 3. The two Wings. 4. Keel. 5. The 10 Stamens spread open. 6. The woolly Ovarium terminated by the Style and Stigma. 7. One of the Bractes.



LOBELIA Tupa.

Mullein-leaved Lobelia.

Natural Order. LOBELIACEÆ. *Juss. ann. mus.* 18. p. 1.

LOBELIA. *Calyx* sæpissime ovario adnatus; limbo libero, quinquepartito. *Corolla* tubulosa; tubo integro aut dorso longitudinaliter fisso; limbo 5-partito, subbilabiato. *Stamina* 5. *Antheræ* connatæ. *Stigma* bilobum aut indivisum. *Capsula* semisupera, bi-rarius trilocularis, apice loculicido-bivalvis. *Semina* creberrima.—*Herbæ*, frutices aut arbores, sæpius lactescentia. *Folia* alterna, integra aut laciniata, rarissime fistulosa. *Flores* terminales spicati, aut axillares solitarii, pedicellis bibracteatis aut nudis. *Corollæ* albæ, cæruleæ aut rubræ. *Antheræ* sæpius barbatae. *Kth. synops.* 2. p. 339.

Sect. III. *Herbaceæ, erectæ aut procumbentes; floribus terminalibus spicatis, rarius axillaribus solitariis; tubo corollæ dorso longitudinaliter fisso.*

L. Tupa, caule erecto 5-angulato, foliis oblongis acutis denticulatis subtus tomentoso-pubescentibus penninerviis reticulato-venosis sessilibus decurrentibus, racemo terminali elongato, pedicellis bracteis subæquantibus, floribus pubescentibus.

Lobelia Tupa. *Linn. sp. pl.* 1318. *Willden. sp. pl.* 1. p. 958. *Pers. syn.* 2. p. 211. *Lam. encycl. bot.* 3. p. 582. *Ræm. et Schult. syst.* 5. p. 38. *Spreng. syst.* 1. p. 710. *Botan. magaz.* 2550.

Rapuntium spicatum foliis acutis, vulgo Tupa. *Feuill. peruv.* 2. p. 739. t. 29.

Perennial, somewhat frutescent at the base. *Stems* hollow, simple, erect, these from which our drawing was made, were 8 feet from the ground to the top, and would have been considerably higher, as they were still lengthening out; well clothed with leaves; 5-angular, the angles occasioned by the leaves being decurrent down the stem, so that it has five flat sides between the angles, thickly clothed with a short dense woolly pubescence. *Leaves* sessile, clasping the stem a little at the base, and decurrent down it on each side; oblong, acute, denticulate or toothed at the edges with numerous very small short teeth, penninerved, and reticulately veined, clothed with a thin woolly pubescence on the under side, and the upper side with numerous very short hairs: lower ones ovately oblong, the upper

ones oblongly lanceolate and more acute, sometimes shortly acuminate. *Raceme* very long, bearing a great number of flowers; our specimens, from the top of the raceme to the lower flowers, were 3 feet 8 inches, and would have been much longer, if allowed to grow on. *Bractes* leaf-like, sessile, broadly lanceolate, taper-pointed, tomentosely pubescent, and toothed with longer and sharper teeth than those on the leaves. *Pedicles* cylindrical, densely tomentose, tinged with purple, about the length of the bractes, a little above the base of each are two small slender bractes, one on each side. *Flowers* scarlet, or tinged with orange. *Calyx* enclosing and connected to the ovarium, 10-angled, inflated, rugose, tomentosely pubescent; limb 5-cleft, the segments erect, narrowly lanceolate, acute. *Corolla* about 2 inches long, densely clothed with a woolly pubescence, split longitudinally on the upper side, 5-angled: limb 5-cleft, recurved; segments linear, often connected at the point, sometimes distinct, the two upper ones longest. *Stamens* 5; *filaments* smooth, red, connected in a long 5-angular tube, surrounding the style: *anthers* densely bearded, also connected. *Style* longer than the stamens, smooth below, but hairy above the middle. *Stigma* bilamellate, papillose, the points revolute.

Several fine specimens of this stately and fine species were sent to us in October last, by A. B. Lambert, Esq. who informs us, that in the borders of his garden, at Boyton, it has attained the height of ten feet; he also sent specimens of it, procured from the Nursery of Mr. G. Wheeler, of Warminster, where the plants were shorter, but the spikes of flowers were closer, and consequently more beautiful, some of them being between three and four feet long; it is a handsome and desirable plant for the Flower-garden, as it is an autumnal bloomer, beginning to flower in September, and continuing to bloom till stopped by the frost. Mr. Lambert informs us, that it is quite hardy, but being a native of Peru, we think it advisable to give it a little covering in severe frosty weather: young cuttings in Spring will strike root, but the best method of raising it is by seeds, which ripen in favourable seasons. The juice of the present plant is said to be very poisonous, which we believe is more or less the case with those of the whole genus.

The genus was named in honour of Matthias Lobel, Physician to James the First of England, and a celebrated Botanist of his time.



1. Tube of the Corolla spread open. 2. Calyx, enclosing the Ovarium, which is terminated by the Style and bilamellate Stigma. 3. The five Stamens connected into a tube.

*Helianthus*

Paint by R. Sweet Feb 1829

Weddellia

PODOLEPIS gracilis.

Branched Podolepis.

Natural Order. COMPOSITÆ. *Adanson fam.* 2. 103.

Subordo III. *CARDUACEÆ*.—Div. 6. *Astereæ*. Kth. syn. 2. p. 399.

PODOLEPIS. *Involucrum* polyphyllum imbricatum hemisphæricum: foliolis scariosis stipitatis. *Receptaculum* punctatum, nudum. *Flosculi* disci tubulosi, hermaphroditi: *radii* ligulati fœminei. *Antheræ* basi muticæ. *Pappus* pilosus, sessilis.—*Herbæ*, caule *ramoso*, vel *subsimplici*; *ramis foliisque alternis*, *floribus solitariis aut paniculatis*, *luteis aut lilacinis*.

P. gracilis, foliolis involucri rhombeo-ovatis acutis, caule paniculato-ramoso, pedunculis apice squamosis, foliis glabris integerrimis basi trinerviis: radicalibus oblongo-ovatis: caulinis lanceolatis amplexicaulibus acuminatis.

Podolepis gracilis. *Graham in the Edinburgh New Philosophical Journal for October*, 1828. p. 11.

Stem of a hard woody texture at the base, two to three feet high, quite smooth and glossy, of a light brown colour, paniculately branched, the branches slender, smooth, producing a leaf at each joint. *Leaves* smooth, entire, three-nerved, rather succulent: lower ones oblongly ovate, terminated in a short point: stem ones sessile, and clasping the stem at the base, where it is three-nerved, attenuated to a narrow point, midrib at the back very strong, so as to appear like a keel, the upper side channelled. *Flowers* of a bright lilac, in a loose spreading panicle. *Peduncle* rather thickened at the base of the flower, clothed a little way down with stipitate scariose white scales, similar to the leaflets of the involucre. *Involucrum* hemisphærical, many-leaved, closely imbricate: the leaflets stipitate, or on long slender glandularly-pubescent green footstalks, glossy, whitish, scariose, rhomboidally ovate, acute, upper ones narrower, with broader footstalks, that are winged a little. *Receptacle* naked, but punctate and roughish. *Rays* bright lilac, spreading, narrowly ligulate, two-lobed or notched at the point, bearing a purple style and bifid stigma, and producing a seed similar to the tubular florets. *Florets of the disk* tubular, 5-toothed, the nerves alternating with the teeth. *Stamens* 5: *filaments* smooth, distinct:

anthers connected into a tube, naked at the base. *Style* smooth, slender. *Stigma* deeply two-cleft, the segments spreading, obtuse, pale lilac. *Akenia* or *seed* slightly four-sided, flat on two sides, punctate, and rough like a rasp, terminated by a pappus of about 20 long, simple, white hairs, that are rough when viewed through a lens.

We observed this very pretty plant for the first time in July last, when it was just coming into bloom in the open borders of the Flower Garden, in the rich collection of Robert Barclay, Esq., of Bury-hill; the seeds were sown in Spring by Mr. D. Cameron, who informs us that they were received from New South Wales the Autumn before, and were marked *Scalea species*, which was the name given to this genus by Dr. Sims. We have adopted the specific name given by Dr. Graham, for the present plant, but we think *ramosum* or *paniculatum* would have been much preferable, as that would have at once distinguished it from the other two scarcely branched species, which we believe are both quite as slender as the present, or more so; the specimens from which our drawing was made, were sent to us in September last, when they were large branching plants, from two to three feet high, with from 30 to 40 flowers on each, which were of a light rose or bright lilac colour, and made a very handsome appearance: those described by Dr. Graham were grown in pots in the Greenhouse, which accounts for their slender growth and paler flowers, as we should judge by his description; for they are of a very lively colour when grown in the open borders. It is quite as hardy and of as easy culture as the common annual yellow *Everlasting*, the *Helichrysum bracteatum*, which is from the same country; the seeds may be sown in the open borders in April or the beginning of May, or they may be raised in pots in frames or in the Greenhouse, and from thence be planted in the borders.

Podolepis is derived from *ποδος*, a foot, and *λεπς*, a scale, from the footstalks to the scales of the involucre.

1. Capitulum split through the middle to show the naked receptacle, and stipitate scales of the Involucre. 2. One of the longer stipitate scales, showing its glandular pubescent stipe. 3. Two of the shorter lower ones. 4. One of the rays, with the seed at the base, showing its hairy pappus. 5. One of the florets of the disk spread open. 6. The ♂ Stamens. 7. Seed, terminated by the Style and Stigma.



Hibiscus grandifolius

Drawn by G. Sargent. Feb. 1852.

W. D. Smith del.

HIBISCUS moscheutos.

Musky Swamp Hibiscus.

Natural Order. MALVACEÆ. *DC. prodr.* 1. p. 429.

HIBISCUS. *Supra fol.* 277.

Sect. VI. ABELMOSCHUS. Carpella polysperma. Semina glabra aut in dorso lineâ subvillosâ. Corollæ expansæ. Involucella foliolis 8-15 integris constantia.

§. 2. *Caule inermi.*—** *Species perennes.*

H. moscheutos, caule erecto glabriusculo, foliis ovatis acuminatis supra medium serratis: inferioribus subtrilobis 5-nerviis subtus canotomentosis, petiolis pedunculisque inter se coalitis, involucellis calycibusque tomentosis, laciniis calycinis acuminatis, capsulis glabris. *Hibiscus moscheutos.* *Linn. spec.* 975. *Cavan. diss.* 3. t. 65. f. 1. *Pursh. fl. amer. sept.* 2. p. 455. *DC. Prodr.* 1. p. 450. *Spreng. syst.* 3. p. 104. *Swt. hort. brit.* p. 51.

β *purpureus.* *Hibiscus palustris.* *Botan. magaz.* 882.

Root perennial, producing several stems from the ground. *Stems* erect, simple, 3 to 4 feet high, smooth and glossy, but thinly clothed with bunches of short hairs when young, nearly cylindrical, or slightly angular on the upper part. *Leaves* alternate, ovate, tapering to a long slender point, toothed with short bluntish teeth from above the middle, from thence to the base entire, the point also entire, 5-nerved from the base, the upper side smooth, and of a light green on the old leaves, the young ones thinly clothed with little bunches of short hairs, underneath clothed with a short dense white tomentum: lower leaves broadest, and more or less 3-lobed, the side lobes short and acute: upper leaves not lobed, and becoming gradually narrower upwards. *Petioles* nearly cylindrical, or but slightly flattened on the upper side, smooth and glossy, but thinly clothed with the little bunches of short hairs. *Peduncles* 1-flowered, cylindrical, also clothed with fascicles of short hairs: the lower ones longest and axillary, upper ones connected into one with the lower part of the petioles, close to where they are jointed. *Flowers* large,

white, with a dark purple base. *Involucre*, or *outer calyx*, of 12 to 13 leaflets, connected into a ring at the base, linearly subulate, acute, clothed with a short dense white tomentum. *Calyx proper* tubular, campanulate, also clothed with a close hoary tomentum, and striated with several longitudinal lines or veins, deeply divided into 5 segments, that are ovate, and taper to a long slender point. *Petals* 5, slightly connected at the base, before expansion spirally twisted, afterwards spreading, obovate, rounded at the points, longitudinally veined with 10 to 12 strong veins, that are pennately branched. *Stamens* numerous, connected into a long cylindrical column, that branches all the way up into short filaments: *anthers* kidney-shaped: *pollen* glandular, straw-coloured. *Ovarium* 5-lobed, 10-furrowed, smooth. *Style* longer than the stamens, 5-cleft, smooth below, but hairy above the stamens, the segments spreading, or reflexed at the points, clothed with spreading hairs, and each terminated with a flat, capitate, papillose Stigma.

Fine specimens in full flower, of this beautiful plant, were obligingly sent to us in September last, along with *H. roseus*, that flowered at the same time, in the rich collection of A. B. Lambert, Esq. at Boyton-House, Wilts: it is seldom that the present plant, or *H. palustris*, produce flowers in our gardens; the reason is, without doubt, through their being planted in too dry a situation, their native places of growth in America being in swamps and marshes. Pursh mentions the present species, as "growing in swamps and salt-marshes, from New York to Carolina; and plentifully in the marshes round the Salt-lake, Onondago, New York, flowering from August to October." It is most probably owing to the very wet Summer, that they flowered so freely this season, and by being planted in a moist situation; and there can be no doubt but they would flower as readily every season, if planted near a pond, or in any wet swampy ground; they are quite hardy, and are readily increased by dividing at the root, or by seed. For the derivation of the generic name, see 277.



1. The lower part of the petiole and peduncle, to show how they are connected.
2. The upper part terminated by the Calyx and Involucrum. 3. The bundle of Stamens. 4. Ovarium, terminated by the Style and Stigmas.



Verbena officinalis

Pub. by R. Street Feb. 1829.

Widdell Sc.

GILIA capitata.

Tufted-flowered Gilia.

Natural Order. POLEMONIACEÆ. D. Don obs. on Polem. in Edinb. ph. journ. p. 4.

GILIA. Calyx tubulosus, 5-fidus. Corolla infundibuliformis, in quibusdam 5-plò calyce longior: limbo plana, 5-loba: lobis latè ovatis (v. linearibus). Stamina in tubo supra medium inserta. Capsula oblonga, subtrigona: loculis oligospermis: valvis membranaceis. Semina angulata. Albumen parcum. Radicula cotyledonibus brevior.—Herbæ ramosissimæ (Amer. calidior.) radice annuâ vel bienni. Folia alterna, profundè pinnatifida: segmentis longo-linearibus, integerrimis, rarius incis. Flores numerosi, pedunculati, subsolitarii aut rarius glomerati, parvi, purpurei aut cærulei, in eleganti et aggregatâ magni, speciosi, coccinei. D. Don loc. cit. p. 5-6.

G. capitata, foliis profundè bipinnatifidis, floribus capitatis, limbi corollæ laciniis linearibus obtusis. D. Don. Mss.

Giliacapitata. Hooker Bot. magaz. 2698. Lindl. Bot. regist. 1170.

Herba (Amer. bor. occid.) latè-virens, sapore amarissimo, indè *Campanulaceis* analogæ. Radix fibrosa, annua. Caulis erectus, ramosus, teres, villis articulatis, patulis, viscidis, vestitus, nunc sæpe denudatus, altitudine varius, palmaris v. sæpè sesqui v. bipedalis. Folia alterna, petiolata, profundè bipinnatifida, sesqui v. tripollicaria: segmentis lineari-lanceolatis, canaliculatis, mucronulatis, integerrimis, v. inciso-dentatis. Flores fasciculati, omninò *Jasionis*, pulchre cyanei: fasciculis globosis, longe pedunculatis. Calyx campanulatus, 5-fidus, basi obtusis, costis 5 prominulis exceptis, membranaceus: laciniis subulatis, conniventibus, margine scariosis. Corolla tubulosa: tubus cylindricus, vix calycem longitudine excedens: faux parùm dilatata: limbo 5-partito, nervis lateralibus dichotomis, v. persæpè trichotomis, ramulosis; intermedio trichotomo, ramulis lateralibus utriusque nervi confluentibus: segmentis linearibus obtusis, trinerviis; truncis vasorum in tubo 15, simplicibus, rectis, parallelis, ad basin usque manifestis, distinctis. Stamina 5, exserta, æqualia, sinubus limbi corollæ quasi inserta, hinc cum laciniis alternantia: filamenta tubo omninò connata, sinubus corollæ perpendiculari è limbo superne libera, subulata, glabra: antheræ oblongæ, tetragonæ, obtusæ, erectæ, basi insertæ, sulcis 4 depressæ, biloculares, loculis explicatis, tandèm complanatæ, suborbiculatæ: loculis parallelis, longitudinaliter connatis, rimâ laterali dehiscentibus. Pollen è granulis minutis pellucidis compositum. Ovarium triloculare: ovulis indefinitis, pellucidis, intùs aquosis, embryoneque natante oculo armato manifesto! Stylus capillaris, glaber, fasciculis vasorum tribus instructus. Stigma trilobum: lobis brevibus, angustissimis, truncatis, facie convexis, pruinosis, nunc recurvis; persæpè tamen abortivum, tunc stylus apice simplici. Capsula subrotundo-trigona, trilocularis, trivalvis: loculis 6-spermis: valvis septiferis, medio cartilagineo-membranaceis, margine longitudinaliter solutis. Dissepimenta membranacea, angulis acutis placentæ triquetræ inserta. Semina duplici ordine in uno quoque loculo ordinata,

subtrigona, aptera, hinc convexa, indè carinata: *testa* membranacea, cellularis, fuscescens, albumen arcte investiens, superficie ut in ordine, (primo notanti D. Lindley), vasis spiralibus materie plexis glutinosâ vestita, et aquâ inadida expansionem subit voluminosam: *albumen* copiosum, cartilagineo-carnosum, album. *Embryo* erectus, axillis, lacteus: *cotyledones* oblongæ, obtusæ, complanatæ: *radicula* teres, recta, obtusa, cotyledonibus brevior, centripeta. D. Don Mss.

"This is one of the interesting discoveries made by our indefatigable friend, Mr. David Douglas, in the north-west regions of America. It is quite hardy, and forms a valuable addition to the flower border, which it adorns during the Summer months, with its numerous tufts of pretty blue flowers; the root is annual."

"The *Gilia laciniata*, of which we have examined numerous authentic specimens in the extensive collections of Ruiz and Pavon, now forming part of the Lambertian Herbarium, has a funnel-shaped corolla, with broad rounded segments, and a tube longer than the calyx: the seeds are also more numerous in each cell, and the radicle longer than the cotyledons. Another of Mr. Douglas's discoveries, the *Collomia pinnatifida*, has very much the habit of *Gilia laciniata*, but it differs in having a capsule with trispermous cells, and the stamina unattached from the middle of the tube upwards, as in *Collomia*, from which it is distinguished by its orbicular cotyledons, with the radicle twice their length. This plant is precisely intermediate between *Gilia* and *Collomia*, and future observations must determine whether it is to be regarded as a distinct genus, or as uniting *Collomia* to *Gilia*. In *Collomia grandiflora* and *linearis* the cotyledons are oblong, and considerably longer than the radicle. Besides the plexus of spiral vessels, an interesting discovery, due to Mr. Lindley, the seeds of POLEMONIACEÆ are invested by a cellular membrane, constituting the true testa or seed-covering; and it is an extension of this membrane which forms the alæ, or winged border in the seeds of *Cantua*, and some other genera of this family. In *Gilia capitata* each of the segments of the corolla is furnished with three nerves, the lateral branches of which become confluent from the middle upwards. The *Phlox pinnata*, of Cavanilles, must be referred to *Gilia*, as we have examined authentic specimens from the author, in the Lambertian Herbarium. The characters of *Echeandia*, given under *Cummingia*, were derived from specimens also communicated by Cavanilles."

For the above account we are entirely indebted to Mr. David Don, who has paid great attention to this natural order; and as there is no figure published, that at all shows the beauty of the plant, we have availed ourselves of the present opportunity of giving one. It only requires to be sown in the open borders of the flower-garden; and if sown at different seasons, between March and August, a succession of flowers may be kept up all the Summer and Autumn; we had plants of it in flower in our garden last June, and others as late as the last week of November; but the finest specimens we have seen were growing in the garden of Robert Henry Jenkinson, Esq., and at the Nurseries of Messrs. Whitley, Brames, and Milne, at Fulham, and Mr. W. Russell's, at Battersea.

The genus was named in compliment to Philip Gil, a Spanish botanist, author of a work in conjunction with C. Xuarez, containing phytological observations on some exotic plants cultivated about Rome.

1. One of the flowers. 2. Calyx. 3. Corolla spread open, showing the 5 Stamens. 4. Ovarium, terminated by the Style and trifid Stigma.



Dianthus Id.

Pub. by R. Sievers. Feb. 1870.

Walden

DIANTHUS giganteus.

Gigantic Pink.

Natural Order. CARYOPHYLLÆ. Juss. gen. 299.

Tribus I. SILENÆ. Sepala coalita in tubum cylindraceum apice 4-5-dentatum.

DIANTHUS. Calyx tubulosus 5-dentatus basi squamis 2-4 oppositis imbricatis. Petala 5 longè unguiculata. Stamina 10. Styli 2. Capsula 1-locularis. Semina compressa hinc convexa indè concava, peltata. Embryo vix curvatus. DC. prodr. 1. p. 355.

Sect. I. ARMERIASTRUM. Flores capitati vel corymbosi, sessiles vel pedunculati.

§. 3. Bracteis ovatis vel lanceolatis, calycibus vix striatis glabris.

D. giganteus, viridis, floribus sessilibus capitato-hemisphæricis numerosis basi suffultis, bracteis foliaceis, squamis calycinis ovato-acuminatis adpressis dimidium tubi æquantibus, foliis linearibus longissimis, basi longè connatis, caule tereti. DC. prodr. 1. p. 356. n. 17. Dianthus giganteus. D'Urv. enum. pl. archip. p. 45. Spreng. syst. 2. p. 375.

Perennial, a little suffrutescent at the base. Stem erect, 3 to 4 feet high, smooth, cylindrical, much swollen at the joints, of a bright green colour. Leaves very long, broadly linear, acute, connected a great way up at the base, and sheathing the stem, three-nerved from the base, and striate, channelled on the upper side and keeled below, smooth on both sides and at the margins, of a bright green colour. Flowers numerous, sessile, very much crowded in a close hemispherical head, divided into 3 or more sets. Bractes that surround the head, foliaceous or leaf-like, broad at the base, and tapering to a slender point, the outer ones longer than the head: inner ones shorter, less leafy, tapering to a long slender point. Calyx long and tubular, striate with numerous longitudinal small lines, smooth, tinged with purple, 5-toothed: the teeth erect, narrowly lanceolate, tapering

to a fine point. *Scales* 4, surrounding the calyx at the base, close-pressed, ovate, tapering to a slender point, outer ones shortest. *Petals* 5, of a dark red purple, jagged or toothed at the edges, veined between the teeth; *limb* spreading, bearded on the upper side: *unguis* long and slender, flat, smooth. *Stamens* 10; *filaments* smooth, attached to the back of the anthers, which are exserted: *pollen* pale blue. *Ovarium* oval, smooth. *Styles* 2, smooth at the base, stigmatose inward and papillose about half their length.

Our drawing of this gigantic species of Pink, was made from fine specimens, kindly sent to us from the Nursery of Messrs. C. J. and P. Young, of Epsom, in August last, who inform us that they raised it from seed, sent by Philip Barker Webb, Esq., who gathered them in the neighbourhood of Malaga. D'Urville, in his enumeration of the plants of the Archipelago, mentions it as growing among rocks by the sea-side in Bulgaria; it is nearest related to *D. Balbisii* of Seringe in Decandolle's Prodrumus, the *D. glaucescens* of Hornemann, but the flowers in that are larger, and the head not so large, its leaves are also glaucous, which in the present species are green; it is certainly one of the most stately, and we believe the tallest growing species of the genus at present known, and will thrive well in a dryish situation, or in rock-work, but will probably require a little covering in Winter, to protect it from the severest frost; a light sandy soil will suit it best, and it may be increased by cuttings, planted under hand-glasses, or by seed; the best way is to have a few young plants in pots, protected under a frame in Winter, they will then be in readiness to turn out in Spring.

The generic name is derived from $\delta\iota\omicron\varsigma$, divine, and $\alpha\nu\theta\omicron\varsigma$, a flower, divine flower; or Jupiter's flower, according to Linnæus.



1. Calyx, showing the scales at the base. 2. The 10 Stamens, showing their various lengths. 3. Ovarium, terminated by the two Styles, that are stigmatose above the middle on the inner side.



Det. by J. Sweet March 25/25

W. & A. 2/27/25

OROBUS *Fischeri*.

Fischer's Bitter Vetch.

Natural Order. LEGUMINOSÆ. *DC. prodr.* 2. p. 93.

Subordo I. *PAPILIONACEÆ*.—*Tribus* IV. *VICIÆ*. *Supra fol.* 194.

OROBUS. *Calyx* campanulatus, 5-fidus; lobis 2 superioribus brevioribus. *Corolla* papilionacea. *Stamina* diadelphea. *Stylus* gracilis linearis apice villosus. *Legumen* cylindraceum oblongum uniloculare bivalve polyspermum. *Semina* hilo lineari.—*Herbæ erectæ. Stipulæ semisagittatæ. Petioli in setam brevem simplicem desinentes. Folia abruptè pinnata paucijuga. Racemi axillares pedunculati.* *DC. prodr.* 2. p. 376.

§. 1. *Foliis unijugis, foliolis ovatis vel linearibus.*

O. *Fischeri*, caule tetragono subsimplici glabriusculo, foliis unijugis; foliolis linearibus obtusiusculis mucronulatis longitudine venosis subtus subsericeis, stipulis linearibus acutis subdentatis sericeo-ciliatis basi uniauriculatis, racemis pedunculatis multifloris secundis, leguminibus reticulato-venosis 6-7-spermis, seminibus subrotundis fuscis.

Orobis atropurpureus. Fischer Mss. non Desf. flor. atl.

Perennial. Stems erect, simple, or branching towards the base, 4-sided, slightly pubescent when young, but becoming smooth by age. *Leaves* on short footstalks, each bearing one pair of leaflets, that are linear, bluntish, but terminated by a short mucro, longitudinally veined with several small veins, underneath thinly clothed with a silky pubescence, the upper side smooth, or scarcely pubescent. *Petioles* short and broad, channelled on the upper side and convex on the lower, terminated beyond the leaves in an acute linear point. *Stipules* linear, taper-pointed, silky, and fringed with silky hairs, bearing a sharp horizontal ear at the base on one side, and sometimes one or two sharp teeth besides. *Peduncles* about the length of the leaves, quadrangular, furrowed, slightly pubescent. *Racemes* many-flowered. *Flowers* crowded, facing all to one side, dark purple. *Pedicels* short, pubescent. *Calyx* short, campanulate, pubescent, 2-lipped: segments of the upper lip very short and broad, bluntly rounded: those on the lower one longer and more pointed, but scarcely acute. *Vexillum* long and narrow, oblong, rounded at the end with a

faint notch at the point, deep purple, lighter near the base. *Wings* spatulate, dark purple, shorter than the vexillum, eared on one side, with a very slender long unguis on the other. *Keel* bluntly rounded, rather shorter than the wings, dark purple at the point, and lighter downwards, eared on each side, and slenderly unguiculate. *Stamens* 10, one distinct its whole length, the other nine connected; and only distinct at the points. *Ovarium* many-seeded, slightly pubescent. *Style* slender, linear, densely bearded at the point. *Pod* convex, somewhat compressed, oblongly lanceolate, ending in a taper point, reticulately veined, very slightly pubescent. *Seeds* 6 to 8, nearly round, of a light brown colour.

Our drawing of this handsome species was made the beginning of June last, from fine specimens sent to us from the collection of Robert Barclay, Esq. of Buryhill, where it was raised from seed sent by Dr. Fischer, under the name of *O. atropurpureus*, but it differs entirely from Desfontaines' plant figured in the *Flora Atlantica*, which always produces from 2 to 4 pair of leaflets on each leaf, whereas the present only produces one pair, most of those are also longer and narrower than in Desfontaines' plant, but the flowers are very similar, as is also the mode of flowering. The present species appears to be nearly related to *O. quadrangulus* of Sprengel, but we think can scarcely be the same. It is a very ornamental plant, beginning to bloom in May, and continuing to flower for a length of time; it also ripens abundance of seeds. We are not certain of what country it is a native, but suppose it to be Siberia, or some part of the Russian empire; it succeeds well in the open borders of the flower-garden in the common garden soil, and is readily increased by seeds.

The generic name is derived from *ορω*, to excite, and *βους*, an ox, that is, food which excites and strengthens oxen; the Greeks applied the name to a plant that appears to have been related to the tare (*Vicia sativa*), and more modern botanists have applied it to a genus allied to the vetch.



1. Calyx. 2. Vexillum. 3. The two wings. 4. Keel. 5. The 9 Stamens connected. 6. The tenth distinct Stamen. 7. Ovarium, terminated by the Style and Stigma. 8. Ripe pod. 9. Seed.



ET. Smith & Co.

Pub. by E. Sweet, March 1825

Wells & Co.

RHODODÉNDRON sinense β *flavescens*.

Pale yellow Chinese Rhododendron.

Natural Order. ERICÆE. *D. Don fl. nepal.* p. 148.

Subordo III. RHODORACEÆ. *D. Don loc cit.* p. 152.

RHODODÉNDRON. *Supra fol.* 250.

Sect. II. AZALEA. *Corolla* basi tubulosa, infundibuliformis. *Stamina* 5.—*Frutices* v. *Arbores*, *plerique deciduis*; *ramis piloso-hispidis*. *Folia oblonga, ovata v. elliptica, pilosa*. *Flores corymbosi, speciosi, colore varii*.

R. sinense, subdeciduum, foliis ellipticis acutiusculis piloso-pubescentibus penninerviis margine ciliatis; subtus canescentibus, corymbis multifloris, pedunculis corollisque pubescentibus, staminibus limbum subæquantibus.

Azalea sinensis. *Lodd. bot. cab. t.* 885. *Sæct. hort. brit.* p. 264.

α *flammeum.* *Lodd. loc. cit. t.* 885.

β *flavescens.* *Supra.*

Stem in our plant between two and three feet in height, branched below, and clothed with a brown bark; *branches* erect, or very slightly spreading, thickly covered with rigid bristle-like hairs. *Leaves* somewhat deciduous, alternate, elliptic, some of them above five inches long, and two broad, attenuated a little to the base, scarcely acute, but terminated in a yellow glandular point, regularly feather-nerved underneath, the nerves branched a little within the margin, reticulately veined, densely clothed with short soft hairs on both sides, particularly underneath, where they are canescent, the margins thickly fringed with short stiff hairs; of a brownish green on the upper side, and pale white underneath, very soft to the touch, the midrib underneath thinly clothed with stiff yellowish bristles: upper leaves crowded close together in a sort of fascicle. *Petioles* short, clothed with hispid hairs, channelled on the upper side, and rounded below. *Scales* at the base of the buds before the leaves expand, subpersistent, lanceolate, taper-pointed, hollow on the inside and keeled at the back, pubescent. *Flowers* pale yellow, in a terminal many-flowered corymb. *Bractes* variable, pubescent, deciduous, surrounding the flowers before they expand: outer ones roundly ovate, terminated in a sharp rigid point: inner ones spatulate, and more of a membranaceous texture, the points acute, but much less sharp; inside of the large bractes are other very narrow, nearly subu-

late ones. *Peduncles* nearly an inch long, cylindrical, clothed with a short, soft, woolly down. *Calyx* short, 5-cleft, pubescent, the segments short, ovate, fringed and terminated with long white hairs, the two middle ones much shorter than the two upper, and the lower one. *Corolla* funnel-form, clothed with a short pubescence on the outside; *tube* 5-angular, widening upwards: *limb* 5-cleft, the segments ovate, mucronulate, imbricate at the base: upper one broadest, and undulate, or curled round the margins, and spotted down the throat with light greenish spots; the other four nearly equal in size, and flat. *Stamens* 5, nearly equal with the segments of the corolla, when overblown slightly exerted; *filaments* unequal in length, clothed with short, rigid, spreading hairs, about half way up, the upper part smooth, attached to the back of the anthers: *anthers* two-lobed, the lobes opening in a hole at the outside near the point, for the exclusion of the white stringy pollen. *Ovarium* deeply 5-angled, thickly clothed with woolly hairs. *Style* smooth, longer than the stamens. *Stigma* green, capitate, hollow in the centre, papillose.

We have before stated that *Rhododendron* and *Azalea* cannot be kept apart as distinct genera; we have therefore now given the latter as a distinct section only of the former, the only essential difference in them being the number of stamens; and this does not even hold good, as some of the supposed varieties of *Azalea indica* bear ten stamens, and are therefore not different in that respect from *Rhododendron*; they will most probably form another distinct section of the genus; but as the whole mule together so readily, the produce will most likely bring all the sections together.

The present handsome variety has been lately imported from China, and flowered for the first time last year, at the Nursery of Mr. Tate, in Sloane Street. The present plant from which our drawing was made, flowered at the Nursery of Mr. Dennis, Grosvenor Row, Chelsea, this Autumn; the whole of the flowers had a more or less petaloid appendage at the back on the inside, as an attempt to become double, as most probably some of the young plants from the seed of it will be: we have no doubt but it will be as hardy as the common *Azalea pontica*, and requires the same treatment; to be planted in peat earth or very sandy loam, and may be increased by layers, or seeds.

For the generic derivation see fol. 263. *Azalea* is derived from *αξάλεος*, dry or arid, from many of the species growing wild in dry, arid situations.



1. Two of the outer Bractes.
2. Calyx.
3. Tube of the corolla split open, to show the four appendages, which appears to be an attempt to become double.
4. One of the Stamens.
5. Ovarium, terminated by the Style and Stigma.

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ROYAL SINENSE B. SINENSE
M. SINENSE



S. p. Arisaema Lind.

Del. by A. Spreng. Marzani 1858

W. and A. D.

DIGITALIS lanata.

*Woolly Forglove.**Natural Order.* SCROPHULARINÆ. *Brown prodr.* 1. p. 433.Sect. I. *Stamina 4 antherifera.*

DIGITALIS. Calyx 5-partitus, laciniis subinæqualibus. *Corolla* campanulata, basi tubulosa, supra dilatata patens: limbo 4-5-lobo inæquali. *Stamina* declinata. *Antheræ* 2-partitæ. *Capsula* ovata acuminata, 2-locularis, valvis introflexis dissepimentum formatibus.—*Herbæ raro frutices: folia alterna; flores spicati terminales.*

D. lanata, spica pyramidata densa lanata, bracteis calyce longioribus laciniisque lanceolatis, corollæ labio inferiore porrecto oblongo obtuso. *Spreng. syst.* 2. p. 788.

Digitalis lanata. *Willden. sp. pl.* 3. p. 287. *Botan. magaz.* 1159.

Waldst. et Kitaib. pl. hung. 1. p. 76. t. 74. *Pers. syn.* 2. p. 163.

Hort. Kew. ed. 2. v. 4. p. 29. Lindl. digit. t. 15.

Perennial. Stems erect, from 2 to 4 feet high, the lower part smooth and glossy, of a pale purple, acutely angular, the angles formed by the nerve of the leaf continuing down the stem. *Leaves* sessile, oblong, or broadly lanceolate, acute, strongly nerved underneath, the nerves forming furrows on the upper side; lower ones smooth on both sides: the upper ones villous on the upper side, and fringed. *Flowers* in a compact terminal spike, that is more or less of a pyramidal form; the stem between the flowers densely clothed with long shaggy wool, as are the bractes and calyx. *Bractes* lanceolately acute, longer than the calyx; the lower ones longer than the flowers; imbricate before the flowers expansion, afterwards spreading. *Pedicles* very short, villous. *Calyx* deeply 5-parted, the segments lanceolate, their points bent a little inwards, nearly equal in length, but the lower ones broadest. *Corolla* campanulate, tubular at the base, inflated and campanulate upwards, of a pale yellow tinged with a rust colour, and netted or marked

with interrupted lines of a darker colour, outside and inside thickly clothed with short hairs: *lower lip* oblong, elongated, obtuse: the *upper one* of 4 short blunt lobes. *Stamens* 4, two rather longer than the others, inserted in the mouth of the tube, the two lower ones attached to the inflated part their whole length; upper ones distinct at the points: *filaments* thinly clothed with glandular hairs: *anthers* 2-lobed, 2-parted, the lobes spreading. *Ovarium* conical, densely hairy. *Style* hairy, the point bent downwards. *Stigma* slightly notched.

Our drawing of this handsome species was taken from fine specimens sent to us from the collection of Messrs. Young, Nurserymen, at Epsom, where we observed a great many fine plants of them in flower last Summer. It is a handsome perennial plant, a native of Hungary, and thrives well in the open borders of the flower-garden, but prefers a light loamy soil, and rather a dry situation, as too much moisture is apt to rot its leaves, and sometimes will make it damp off altogether; in very severe frost it will also be better to give it a little covering, as it may otherwise be injured, particularly if in a moist situation; it is also a good plan to raise it frequently from seeds, as the plants are not very long-lived, and will not generally survive many years; it is readily increased by seeds, which ripen plentifully.

Digitalis is a Latin name taken from the resemblance of the flower to a sheath for the finger, or the finger of a glove, which is very remarkable in *D. purpurea*, and some nearly related species.



1. Calyx. 2. Corolla spread open, to show the insertion of the 4 Stamens. 3. Stamen detached, to show the glandularly hairy filament. 4. Ovarium, terminated by the Style and slightly notched Stigma.



GEUM Quellyon.

*Chile Avens.**Natural Order.* ROSACEÆ. *DC. prodr. 2. p. 525.*

Tribus V. *DRYADEÆ.* *Calyx* 5-fidus (rariùs 4-fidus aut pluridivisus), per æstivationem valvatus, sæpè extùs bracteolas lobulosve exteriores lobis alternos gerens. *Petala* tot quot cal. lobi veri et iis alterna. *Stamina* numerosa, rariùs 5 et tunc lobis cal. opposita, apice tubi calycini expansi inserta. *Carpella* plurima, rariùs pauca congesta, toro inserta, inter se et à calyce libera, et latere prope apicem stylifera. *Styli* introrsum sulco-notati in stigma obliquum expansi. *Akenia* uniovulata omninò libera, exsucca aut baccata. *Semen* solitarium erectum aut inversum, exalbuminosum. *Embryo* rectus, cotyledones planiusculis.—*Herbæ aut frutices; foliis sæpiùs compositis, stipulis 2 lateraliter petiolo adnatis.* *DC. prodr. 2. p. 549.*

GEUM. *Calyx* tubus concavus, limbus 5-fidus extùs 5-bracteolatus. *Petala* 5. *Stamina* plurima. *Carpella* exsucca caudata in capitulum disposita. *Stylo* post anthesin articulatulo. *Semen* adscendens.—*Herbæ, foliis variè pinnatisectis.* *DC. prodr. 2. p. 550.*

Sect. I. CARYOPHYLLASTRUM. Flores adscendentes. Calyces reflexi. *Styli* deflexi geniculati. Appendices plerumque stylo breviores.

G. Quellyon, foliis caulinis superioribus trilobis; inferioribus lyratis; radicalibus lyrato-interrupte-pinnatis; foliolo terminali maximo bullato-rugoso cordato-reniformi crenato: lateralibus inæqualibus subrotundis dentatis, caule erecto, floribus erectis paniculato-ramosis.

Caryophyllata foliis alatis, flore amplo coccineo, vulgo Quellyon.

Feuill. per. et chil. 1709-10-11. p. 736. t. 27.

Geum chilense. *Balbis ex DC. prodr. 2. p. 551.*

Geum coccineum. *Lindl. Bot. reg.* 1038. *excl. synonym. Flor. græc.*

Perennial, growing in a close crowded tuft, producing many short branches from the base, that are thickly clothed with leaves. *Leaves* clothed with numerous stiff hairs on both sides, of a dark green colour on the upper side, and lighter underneath; lower ones about a foot in length, lyrate, and interruptedly pinnate: terminal leaflet very large, rugged, or blistered, cordate, or kidney-shaped, slightly 5 or 7-lobed, and notched round the edges with numerous broad shallow notches, strongly nerved with numerous nerves underneath, that branch all over the leaflet; side leaflets numerous, very unequal in size, the different sorts intermixed, some of them on short footstalks, others sessile, generally unequal sided or oblique near the base, more or less round-

ed, some of the largest slightly lobed and toothed with bluntish teeth. *Petioles* very hairy, and clothed with short pubescence, channelled on the upper side, and rounded on the lower, widened a little at the base. *Stipules* on the stem-leaves joined to the base of the petioles, ovate, acute, sometimes toothed; none on the radical leaves, which have only a thin membranaceous wing on each side at the base. *Flower-stems* several, erect, paniculately branching, from 18 inches to 2 feet in height, leafy, clothed with a short pubescence, and longer hairs intermixed; lower leaves on the stem lyrate, upper ones 3 to 5-lobed, trifid or 3-parted; the lobes narrower, toothed, and acute, stipules on the upper leaves ovate, or oblong, generally bifid or 2-lobed. *Peduncles* cylindrical, densely hairy. *Flowers* of a scarlet orange-colour. *Bractes* 5, small, lanceolate, acute, alternate with the segments of the calyx. *Calyx* 5-cleft, the segments ovate, or broadly lanceolate, acute, reflexed, very hairy. *Petals* 5, nearly round, slightly notched at the end, hairy at the back, and ciliate. *Stamens* numerous, inserted in the tube of the calyx: *filaments* smooth, orange-coloured: *anthers* 2-lobed, attached to the filaments by their back. *Ovarium* thickly clothed with long hairs. *Style* jointed, purple, hairy, the upper joint bending downwards. *Stigma* blunt, slightly emarginate.

The present beautiful species has been confused with *G. coccineum* of the Flora Græca by some authors, but that is a very different plant, and is doubtless a species of *SIEVERSIA*. The present species, according to Feuillée, is a native of the sides of mountains in Chile, and has not been introduced there from Greece, as has been supposed. We are obliged to A. B. Lambert, Esq. for pointing out to us Feuillée's figure and description, where its medicinal qualities are also mentioned, and a decoction of it is stated to be aperient. It makes a valuable addition to the flower-borders, thriving well in the common garden soil, and is also a desirable plant for ornamenting rock-work; it is readily increased by seeds, which ripen plentifully, or by dividing at the root. Our drawing was made last Spring, at Mr. J. Knight's Nursery, in the King's Road; our description was from a plant in the collection of R. H. Jenkinson, Esq.

The generic name is derived from *γυνή*, to give an agreeable flavour; the roots possess a pleasant scent, and have been supposed, on being chewed, to correct the disagreeable taste proceeding from a disordered state of the stomach.



1. Calyx. 2. Base of the same spread open, to show the insertion of the Stamens.
3. Ovarium densely hairy, terminated by a jointed style, and small emarginate stigma.



St. Paul's

Pub. by J. Sweet Apr. 1840

London

CHELONE Lyoni.

*Lyons' Chelone.**Natural Order.* SCROPHULARINÆ. *Kth. synops.* 2. p. 110.Tribus II. *Stamina 4 antherifera.**CHELONE.* *Supra fol.* 120.

Sect. I. ERIANDRA. Calyx basi tribracteatus; filamento sterili apice glabro: antheris lanuginosus.

Sect. II. LASIANDRA. Calyx basi nudus; filamento sterili subglabro: antheris pubescentibus.

Sect. III. LISSOSTEMON. Calyx basi nudus; filamento sterili glabro: antheris glabris.

Sect. IV. PENTSTEMON. Filamento sterili superne barbato; antheris glabris.

C. Lyoni, glabriuscula; erecta; ramosa; foliis petiolatis cordato-ovatis acuminatis serratis rugosis utrinque glabriusculis margine subciliatis, spicis axillaribus terminalibusque densifloris, filamento sterili brevissimo inferne piloso.*Chelone Lyoni.* *Pursh flor. amer. sept.* 2. *supp.* p. 737. *Spreng. syst. veg.* 2. p. 812. *Swt. hort. brit.* p. 305.*Chelone major.* *Sims botan. magaz.* 1864.

Roots creeping a little. *Stems* several, erect, pubescent, from 2 to 3 feet in height, or more when grown in rich light earth, branched, angular on two sides and channelled on the two alternate ones: *branches* opposite, slightly angular, or nearly cylindrical, clothed with a short rough pubescence, and terminated with close crowded spikes of flowers. *Leaves* opposite, petiolate, cordately ovate, shortly acuminate, serrate, the teeth bent a little inwards, rugose, or sometimes blistered, smooth on both sides, but clothed with a few short hairs, that wear off by age, of a dark glossy green on the upper side, pale or whitish underneath, or sometimes tinged with purple. *Petioles* deeply channelled on the upper side and keeled on the lower, connected at the base, clothed with a short rough pubescence. *Spikes* terminal and axillary, sometimes crowded several together. *Flowers* large, sessile, of a pale purplish red. *Bractes* 3, at the base of the calyx, which they surround, roundly ovate, obtuse, concave inwards, pubescent, and fringed. *Calyx* deeply 5-parted, the segments ovate, obtuse, concave inwards, pubescent, and thickly fringed at the margins. *Corolla* tubular, inflated upwards, 2-lipped, slightly pubescent

outside ; *upper lip* slightly notched, straight, fringed with short hairs round the edges : *lower lip* 3-fid, densely bearded with a dense tuft of yellow hairs, that extend down to the parting on each side, the segments nearly equal, blunt. *Stamens* 5, four fertile and one barren, the barren filament about half the length of the fertile ones, attached to the tube a little above the base, pale red, smooth at the point, but clothed with long white hairs from about half-way to the base, inserted between the two shortest fertile stamens at the back ; the two front ones rather longest, all slenderest at the base and widening upwards, becoming slender again where attached to the anthers, thickly clothed more than half way up with yellow hairs : *anthers* kidney-shaped, densely clothed with thick white wool. *Ovarium* smooth. *Style* smooth, longer than the stamens. *Stigma* obtuse, but scarcely capitate.

From the approximation of the above sections to each other, it will be at once perceived, that *Chelone* and *Pentstemon* cannot be kept apart as distinct genera, as they are completely joined by *P. erianthera* of Nuttall, (the *P. glabra* of Dr. Sims,) by its pubescent anthers ; and still more so, by *C. nemorosa* of Mr. D. Douglas, published in the Botanical Register, pl. 1211 ; this species has the woolly anthers of *Chelone*, with all the other characters of *Pentstemon* ; but as no notice is taken of its barren filament in the account of it, we are not certain whether it is referable to our first section, or will require a distinct one by itself. The genus is now become very extensive, by the number of new species discovered in the north-west part of North America, by Mr. Douglas, and by him sent home to the Horticultural Society's Garden.

We have given a figure of the present fine plant, a native of Upper Carolina and Georgia, to show one of the true species of the genus, which now forms our first section with *C. glabra*, and *C. obliqua* ; to the second section belongs *C. erianthera* ; to the third, *C. barbata* ; and also *C. imberbis*, and *C. gentianoides*, of Kunth ; and to the fourth, all the species with the bearded sterile filament, that have been referred to *Pentstemon*. In the Botanical Magazine, it is stated, that the sterile filament is perfectly smooth ; in our specimens it is hairy about half its length. The present species succeeds well in the open borders of the flower-garden, in a rich light soil, and increases freely by dividing the root, or by seeds. Our drawing was made from a plant at the Nursery of Mr. Colvill, King's Road, Chelsea.

The generic name is from *χελων*, a tortoise, the flowers of the original species bearing a strong resemblance to that animal.



1. Calyx surrounded by the 3 bractes at the base, the Ovarium inclosed in the calyx, and terminated by the Style, and blunt Stigma. 2. Lower lip of the Corolla, showing the 4 fertile Stamina. 3. Upper lip, showing the barren filament, hairy at the base. 4. Stamen detached, to show the woolly anther.

*Eschsch. Del.**Ruby E. Sweet April 1889**Walsh & Co.*

ÆNOTHERA taraxacifolia.

Dandelion-leaved Ænothera.

Natural Order. ONAGRARIÆ. *DC. prodr.* 3. p. 35.

ÆNOTHERA. Supra fol. 5 et 133.

Sect. III. **ÆNOTHERIUM.** *Stigma* quadrifidum. *Antheræ* oblongæ. *Fructus* obovato-clavatus sæpè octo-costatus; valvis obovatus. *DC. prodr.* 3. p. 49.

Æ. taraxacifolia, caule ramoso elongato procumbente, foliis alternis interruptè pinnatifidis sinuato-dentatis apice integerrimis pubescentibus, tubo floreque longissimo, petalis maximis obovatis integris 5-nerviis, antheris stigmatibusque corollâ brevioribus, capsulis sessilibus obovatis tetragono-alatis basi cylindrico-attenuatis pubescentibus.

Ænothera taraxacifolia. *Hortulanorum.*

Ænothera grandiflora. *Ruiz et Pav. fl. per.* 5. t. 318. f. 6. *nec aliorum.*

Ænothera acaulis β *major.* *Seringe in DC. prodr.* 3. p. 40.

Root perennial. *Stems* numerous, branching from the base, trailing on the ground, and extended to a great length, sometimes above 2 feet long, of a reddish purple colour, thickly clothed with a short woolly pubescence, and longer hairs intermixed. *Leaves* alternate, the lower ones about a foot in length, becoming shorter and smaller upwards, interruptedly pinnatifid, undulate, pubescent, but much less so than in **Æ. acaulis**; the segments very unequal in size, large and small irregularly intermixed, lanceolate, or linear, some slightly toothed with small teeth, others entire; terminal one large and elongated, more or less sinuate, or toothed downwards, then becoming denticulate and ending in an entire acute point. *Petioles* flattened on the upper side and rounded below, pubescent, more or less tinged with purple. *Flowers* axillary, sessile, very large, white when first expanded, afterwards changing to a delicate pink, or blush. *Calyx* superior, tubular, the tube the longest in the genus, those from the flowers at the bottom of the stem being nearly a foot in length, the upper ones becoming gradually shorter, 4-sided, pubescent, of a red purple, the angles green, inflated a little below the limb, and of a lighter colour: *limb* 4-cleft, the segments lanceolate, tapering to a subulate point, generally connected above the middle, but sometimes distinct, thickly clothed with

a white hairy pubescence. *Petals* 4, very broad, obovate, entire, strongly 5-nerved, and veined with smaller veins, inserted in the mouth of the tube, spreading. *Stamens* 8, every other one alternate with the petals, the others opposite, shorter than the petals: *filaments* smooth, attached to the back of the linear anthers: *pollen* straw-coloured, stringy. *Ovarium* sessile, obovate, 4-winged, cylindrical downwards, clothed with a rough pubescence, purple. *Style* very long, smooth, but not extending to the end of the petals. *Stigma* 4-cleft, the segments subulate, spreading. *Capsule* obovate, 4-winged, crowned with 4 ovate spreading fleshy segments, 4-celled, 4-valved, many seeded. *Seed* obovate, winged.

The present very handsome species is a native of Chile, and is figured and described in the *Flora Peruviana* of Ruiz and Pavon, under the name of *Æ. grandiflora*, but the true *Æ. grandiflora* is a very different plant, with yellow flowers, and belongs to a different section of the genus. Seringe, in Decandolle's *Prodromus*, considers this as only a variety of *Æ. acaulis*, of Cavanilles, from which, however, we conceive nothing need be more distinct; we have adopted the name by which it is generally known in the collections about London, and which is a very characteristic one; it may be considered as one of the finest species of the genus, and deserves a place in every collection, as it continues to bloom from June to November, if the weather prove mild; the last season we observed it in bloom till near Christmas, thriving well in the open borders of the flower-garden, in the common garden soil, and, in mild Winters, will require no protection; but, in severe frost, it will need a little covering; a flower-pot turned over it secures it very well. It may be increased by cuttings, which root readily by planting in a shady border without any covering, or by seeds, which ripen plentifully; the best time for sowing them, is any time in April.

Our drawing was made from fine specimens sent us from the collection of Robert Barclay, Esq. of Bury-hill; we also received it from Messrs. Young's Nursery, of Epsom; and from that of Messrs. Whitley, Brames, and Milne, at Fulham.

For the explanation of the generic name, see fol. 268.



1. Calyx. 2. The 8 Stamens inserted in the mouth of the tube, the anthers attached by their back to the filaments. 3. Upper part of the Style terminated by a four-cleft spreading Stigma. 4. Capsule.



E. D. Smith & Co.

Pub. by R. Swasey April 10 19

Wells & Co.

VERBÈNA pulchella.

Pretty Vervain.

Natural Order. VERBENACEÆ. *Brown prodr.* 1. p. 510.

VERBENA. Supra fol. 202.

V. pulchella, caule adscendente ramoso : ramis erectis hirsuto-pubescentibus, foliis 3-partito-pinnatifidis hirsutis ; segmentis pinnatifido-incisis integerrimisve lineari-lanceolatis obtusiusculis, corymbo terminali : ante anthesin capitato ; post anthesin spicato, calycibus elongatis.

Stem herbaceous, or suffruticose at the base, spreading, very much branched : *branches* opposite, erect, slightly quadrangular, pubescent, with a few longish spreading hairs scattered amongst the short pubescence. *Leaves* opposite, attenuated at the base into a sort of footstalk, trifid or pinnatifid, some of the lower ones bipinnatifid, spreading, hairy, the hairs decumbent, of a dark glossy green : segments more or less divided, or the upper ones entire, linearly lanceolate, bluntish, furrowed on the upper side : bottom ones on the lower leaves pinnatifid. *Flowers* of a bright lilac, terminating the branches in a close, spreading corymb when in bloom ; before flowering forming a close head ; and lengthening out to a long spike after bloom. *Bractes* broadly lanceolate, taper-pointed, hollow at the base. *Calyx* very long, tubular, bluntly 5-angular, and membranaceous between the angles, 5-toothed, clothed with a close short hoary pubescence : teeth subulate, unequal, upper ones shortest. *Corolla* funnel-form, tubular : limb 5-cleft, the segments unequal ; the two upper ones narrowest and longest, joined a good way up, ligulate, notched at the end ; 3 lower ones nearly obcordate, with a deep notch in their ends : tube slender, bearded in the mouth, where the stamens are inserted. *Stamens* 4 : two inserted about the middle of the tube :

the other two just within the mouth, the filaments extending beyond the anthers, and terminated in a dark club-shaped point, the anthers attached by their back. *Ovarium* smooth and glossy. *Style* smooth, slender. *Stigma* top-shaped, beaked on one side.

Our drawing of this pretty species, was taken from specimens kindly sent to us by Messrs. C. J. and P. Young, from their choice collection of hardy plants at the Epsom Nursery; they inform us that the plant was sent to them by a friend, who raised it from seed that he had received from Buenos Ayres. It appears from Sprengel's description of *V. dissecta* to be nearly related to that species, a native of Chile; but that is described as an upright plant, besides other slight differences, and from his short description it is not easy to determine the plant he means; and as we have been informed that there are numerous species of this tribe, natives of the same country, we are inclined to believe the present to be distinct from his; it belongs to the same division of the genus as *V. Aubletia* and *V. Lamberti*, and several others of the most beautiful species, and will prove a very ornamental plant, as its flowers are produced in succession all the Summer and till late in Autumn, thriving well in a rich light soil of the flower-borders, but will require a little covering in severe frost; or some young plants may be grown in pots in the frames or greenhouse, and be planted into the borders in Spring; young cuttings, planted in a shady situation, will root readily; and it may also be increased by seeds, which should be sown in April or May.

Verbena was a name applied by the ancients to all sacred leaves, and other sweet herbs used to adorn the altars, and was also used for the herb *vervain* (*Verbena officinalis*), a plant formerly, and very deservedly, much noted in medicine. According to De Theis, it is an alteration of *ferfaen*, the Celtic name of the plant.



1. The long tubular Calyx. 2. Tube of the Corolla split open, showing the insertion of the four Stamens. 3. Ovarium terminated by the Style and top-shaped Stigma.



E. D. Smith Del.

Pub. by P. S. Fernald April 1929

Walden Co.

PSORALEA glandulosa.

Stripe-flowered Psoralea.

Natural Order. LEGUMINOSÆ. *DC. prodr. 2. p. 293.*

Subordo I. PAPILIONACEÆ.—Tribus II. LOTÆÆ. *Supra fol. 159.*

Subtribus III. CLITORIÆ. *Legumen* uniloculare. *Stamina* sæpiùs diadelpha. *Caulis* herbacei aut suffrutescentes sæpè volubiles. *Folia* varia, primordialia opposita inter se similia. *DC. prodr. 2. p. 216.*

PSORALEA. *Sepala* 5 ad medium concreta in calycem 5-fidum persistentem, tubo sæpiùs glanduloso, lobis acuminatis infimo paulò productiore. *Stamina* 10 sæpiùs diadelpha, decimo interdùm basi cum cæteris connexa. *Legumen* calycis longitudine evalve monospermum interdùm in rostrum desinens.—Frutices aut Herbæ *tuberculis glandulosis sæpiùs verrucosæ. Folia varia, stipulis petiolo basi adnatis.* Flores *dispositione varii cærulei, albidì purpurascentesve.* *DC. prodr. 2. p. 216.*

**** *Pedunculis axillaribus flores laxè spicatos racemose gerentibus.*—*Poikadeniæ. Ell.*

P. glandulosa, glabra, foliis pinnatim trifoliolatis, foliolis ovato-lanceolatis acuminatis, petiolis glanduloso-scabris, racemis axillaribus pedunculatis folio longioribus. *DC. prodr. 2. p. 220.*

Psoralea glandulosa. *Lin. spec. 1075. Willden. sp. pl. 3. p. 1349. Botan. magaz. 990. Hort. Kew. ed. 2. v. 4. p. 377. Pers. syn. 2. p. 347. Spreng. syst. 3. p. 198.*

Culen. Feuil. peruv. 7. t. 3. Ard. spec. 1. p. 24. t. 11. Molin. chil. v. 1. p. 133.

Stem shrubby, erect, branching: *branches* erect, angular, striate, clothed with small glands and short black hairs. *Leaves* pinnately ternate; *leaflets* petiolate, the terminal one at a distance from the others, ovately lanceolate, taper-pointed, pennately nerved, reticulately veined, smooth and glossy on the upper side, underneath dotted with numerous rough dots. *Petioles* furrowed on the upper side and rounded on the lower, clothed with small glands and close-pressed black hairs. *Flowers* blue, variegated with white, Rue-scented, in axillary spike-like racemes, longer than the leaves. *Peduncles* striate, hairy and glandular. *Pedicels* short, generally in threes. *Bractes* short, ovate, acute, densely hairy, deciduous. *Calyx* 5-cleft, persistent, thickly clothed with close-pressed hairs: the lacinia lanceolate, acute. *Vexillum* ovately oblong, rounded, slightly emarginate, hollow in the middle, very much striated underneath, sides a little reflexed, bright blue in the centre,

the margins white. *Wings* spathulate, concave, unequal sided, eared on one side at the base, and producing a very slender unguis on the other. *Keel* very short and flat, about half the length of the wings, dark blue at the point and white at the base, scarcely eared, but producing a long slender unguis. *Stamens* 10, nine joined in a tube, but distinct at the points, the other only slightly joined at the base. *Ovarium* densely tomentose. *Style* smooth, or slightly hairy at the base, ascending, thickened in the bend. *Stigma* capitate.

Our drawing was made from fine specimens communicated to us by A. B. Lambert, Esq. who informs us that he has several fine shrubs of it growing in the open borders of his garden at Boyton, where they attain the height of ten or twelve feet, and produce an abundance of flowers a great part of the Summer and Autumn, and ripen their seeds; he has also native specimens of it from Mexico and Chile, which, as well as the cultivated plants, vary considerably in the number and size of the glands, with which they are more or less covered.

The following account of it is given in the English translation of Molina's Chili. "A great number of shrubs, from time immemorial, have been employed as efficacious medicines, by the physicians of the country. Among these is the *cullen* (*psoralea glandulosa*) well known in Europe; it is considered as a powerful vermifuge, and one of the best stomachics; the leaves are used in infusion, and, from their aromatic taste, are by many preferred to tea, and occasionally serve as a substitute for it. This shrub is indigenous to Chili, where it grows spontaneously, and frequently attains the height of a common sized tree."

"There is another variety, which is called the *yellow cullen*, from the colour of its leaves, which, like those of the other, are disposed by threes.—Its flowers, like those of the other species, are leguminous, the seed solitary, and the leaves of both are vulnerary and very balsamic."

The present subject forms a very handsome shrub, when covered with its numerous racemes of flowers; in severe winters, the upper parts of it are apt to be killed down some way by the frost, if not protected a little by a mat, or some other covering, but even then it throws up numerous flowering shoots, which soon attain a good size; it thrives well in the common garden soil, and is readily increased by seeds.

The generic name is derived from *ψευδαλες*, scabby, from the scaly appearance of the branches of some of the species, where the leaves are dropped off, as in *P. odoratissima*.



1. Calyx spread open. 2. Vexillum. 3. The two Wings. 4. Keel. 5. The distinct Stamen. 6. The 9 united Stamens. 7. Ovarium, terminated by the bent Style, and capitate Stigma.



FT. 1849. 184

Pub. by B. J. 1849. May 1849

Walden. 1849

ACIS rosea.*Rose-coloured Acis.**Natural Order.* AMARYLLIDÆ. *Brown prodr.* 1. p. 296.

ACIS. *Perianthium* superum, petaloideum, campanulatum: limbo 6-partito, regulari, apice incrassato. *Stamina* 6, basi laciniarum glandulosum inserta. *Antheræ* 2-loculares apice dehiscentes. *Stylus* filiformis. *Stigma* simplex, obsolete triloba. *Capsula* trilocularis. *Semina* carnosae, angulata. *Spatha* bivalvis compressa 1 aut multiflora. *Foliis linearibus carnosulis. Radix bulboso.*

A. rosea, spatha uniflora, foliolis perianthii oblongis obtusiusculis integris margine membranaceis, foliis angusto-linearibus obtusis subglaucescentibus patulis.

Acis. *Salisb. in Parad. londin.* 74. *in obs.*

Leucojum roseum. *Mart. ex Spreng. syst.* 2. p. 48. *Deslong. ex Steud. nomencl.* 1. p. 476.

Bulb nearly round; from the bulb proceeds a tubular membranaceous sheath, ending in an acute point; by this the leaf and flowers are inclosed. *Leaf* one only, in each of our plants when in flower, erect, narrowly linear, blunt at the point, bright green, becoming somewhat glaucescent afterwards, purplish at the base, rather succulent, slightly hollow on the upper side and convex below, striated on the lower side, and punctate or dotted with innumerable very small white dots, that can be scarcely seen without the aid of a lens: after flowering, several leaves are produced from each bulb, they are then flatly spreading, and remain all the Winter. *Scapes* from 1 to 3, flowering in succession, all single-flowered, longer than the leaves at the time of blooming, slightly angular, and longitudinally lined with numerous prominent lines, of a pale glaucous colour. *Spathe* two-valved, one-flowered, the segments filiformly linear, acute, membranaceous, more than twice the length of the pedicle. *Pedicle* short, smooth, striate, slightly angular, pale green. *Flowers* nodding, pale rose-coloured. *Ovarium* below the flower, three-sided, dark green. *Perianthium* campanulate, deeply 6-parted, but joined at the base: leaflets imbricate, oblong, entire, bluish, and terminated in a thickened point. *Stamens*

6, inserted in the base of the perianthium, on a sort of green gland; *filaments* very short and slender: *anthers* linear, opening at the point for the exclusion of the yellow pollen. *Style* filiform, slightly 3-sided, smooth. *Stigma* small, scarcely 3-lobed. *Capsule* 3-celled, several seeded. *Seeds* green and fleshy, angular.

Our drawing of this delicate and elegant little species, was taken on the 23d of August last, at the Nursery of Messrs. Whitley, Brames, and Milne, at Fulham, when the plants were in full bloom; the bulbs were presented to Mr. Milne by Lord Sandon, who brought them from the South of Europe, with many other rare and curious bulbs, which are now thriving in the above Nursery, and several have flowered. Our drawing of the bulb in full foliage was taken last March, there being only one leaf on the plant when in bloom, the others being produced after flowering, and continue to grow till the Summer; three or four flowers are produced in succession, so that they continue in bloom for a considerable time; in our opinion it is the prettiest species of the genus.

Mr. Salisbury, in the *Paradisus Londinensis*, removes those species with a filiform style, and fleshy angular seeds, from *LEUCOJUM*, and distinguishes them by the poetical title of *Acis*; to this genus our plant belongs, as does all the autumnal flowering narrow-leaved species; to it must be referred *L. autumnale*, *L. hyemale*, *L. grandiflorum*, and *L. trichophyllum*: the true species of *LEUCOJUM* are readily distinguished by their club-shaped style, and shelly seeds; to it belongs *L. vernum*, *L. aestivum*, and *L. pulchellum*.

The present plant thrives well in a light sandy soil, and appears to be of stronger growth than *A. autumnalis*, and its bulbs are larger, so that it is not in such danger of being lost. It must be increased by offsets from the bulbs, or by seeds, if they should ripen.

Mr. Salisbury proposed for the present genus, the poetical name of *Acis*, a handsome Sicilian shepherd, the son of Faunus and the nymph Simaethis.



1. The six leaflets of the Perianthium spread open, showing the green gland to which the Stamens are attached. 2. The six Stamens. 3. Ovarium, terminated by the three-sided, filiform Style, and small, slightly 3-lobed Stigma. 4. Plant after flowering, showing its spreading leaves.



Ed Smith Del

Pub by R. Sweet May, 1829

Widdow

RHÉXIA ciliōsa.

Ciliated Rhexia.

Natural Order. MELASTOMACEÆ. *DC. prodr.* 3. p. 99.

Subordo I. MELASTOMEÆ. *Antheræ* apice 1-2-porosæ.

Tribus II. RHÉXIEÆ. *Antheræ* apice 1-porosæ. *Ovarium* liberum apice nec squamosum nec setosum. *Capsula* sicca. *Semina* cochleata, hilo orbiculato basilari.—Species omnes (1 exceptâ) Americanæ. *DC. l. c. p.* 114.

RHÉXIA. *Calycis* tubus basi ovato-ventricosus apice in collum angustatus, limbo 4-fido persistente. *Petala* 4 obovata. *Antheræ* 8 connectivo non perspicuo nec auriculato. *Capsula* in ventre calycis libera 4-locularis, placentis lunatis pedicellatis. *Semina* cochleata.—*Herbæ* (Boreali-Americanæ) *læves*. *Caules erecti* 4-goni. *Folia sessilia integerrima linearia lanceolata vel ovata* 3-nervia. *Flores in cymam corymbosam dispositi ternati purpurei aut lutei.* *DC. prodr.* 3. p. 121.

R. ciliōsa, caule subquadrangulo lævi, foliis subpetiolatis ovalibus subtus glabris; suprà rariter hirtellis margine ciliatis, floribus ternato-conglomeratis sessilibus involucratis. *DC. prodr.* 3. p. 122.

Rhexia ciliōsa. *Michx. fl. bor. amer.* 1. p. 221. *Pursh fl. amer. sept.* 1. p. 258. *t.* 10. *Spreng. syst.* 2. p. 310. *Pluk. amalth.* p. 138. *t.* 425. *f.* 4.

Perennial. *Stems* erect, from 6 to 18 inches in height, smooth and glossy, pale red, slightly quadrangular, the angles slightly winged. *Leaves* opposite, nearly sessile, or with very short footstalks, ovate, acute, strongly 3-nerved from the base, underneath smooth, except on the nerves, which are slightly hairy; upper side thinly hairy, the margins fringed, or slightly serrulate, with the serratures sharply and slenderly mucronate. *Flowers* terminal and solitary, or axillary in threes, according to the strength of the plant, bright purple. *Flower-stems* quadrangular and winged. *Bractes* small, ovate, acute, ciliate. *Pedicles* short, sometimes nearly wanting. *Calyx* tubular, nearly globular at the base, thinly clothed with rigid hairs, tipped with small glands, as

are the petals also at the back : limb 4-cleft, the segments lanceolate, acute, or sometimes bluntish, spreading, about half the length of the tube. *Petals* 4, spreading, inserted on the border of the calyx, ovate, bright reddish purple. *Stamens* 8, also inserted in the mouth of the calyx: *filaments* smooth, yellow, tapering upwards, inserted in the back of the anthers, a little above the base: *anthers* bent, declining, nearly as long as the filaments, one-lobed, bursting at the point for the exclusion of the pollen, and bearing a small subulate spur at the base. *Ovary* smooth. *Style* smooth, a little longer than the filaments. *Stigma* a small head.

For the opportunity afforded us of giving a figure of this rare and beautiful species, we are obliged to Robert Barclay, Esq. of Bury-hill, from whom we received it in flower in September last; the plants were sent from America by Mr. T. Nuttall, and we are informed by Mr. D. Cameron, that they are more difficult to flower than *R. mariana* and *R. virginica*, and will not expand well, except covered up by glass, either a frame or hand-glasses; from the figure in Pursh's Flora of North America, we were at first doubtful whether ours was the same species; but by the kindness of A. B. Lambert, Esq. we were allowed to examine his specimens, some of which were precisely like ours; the figure in Pursh's work having been made from a very weak imperfect specimen, as stated by Nuttall in his genera of North American plants.

Like the other species of the genus, the present requires to be planted in a sandy peat soil, and is increased by dividing at the root.

The generic name is derived from the Greek *ρῆξις*, *rupture*, and was used by Pliny, for a Boraginous plant, said to be good for the cure of rupture; the present genus to which it is applied, is not possessed of any such virtue.



1. Calyx. 2. The same spread open, showing the insertion of the eight Stamens, the anthers each bearing a small subulate spur at the base. 3. Ovary, terminated by the Style and small capitate Stigma.



J. E. Smith, Del.

Art. by H. V. May 1860

W. H. B. & Co.

ÓRCHIS sambucina.

Elder-scented Orchis.

Natural Order. ORCHIDÆ. *Brown prodr.* 1. p. 309.

Sect. I. MONANDRÆ. Anthera adnata subterminalis persistens.
Pollinis massæ e lobulis angulatis elastice cohærentibus: basi affixæ.
Brown Hort. Kew. ed. 2. v. 5. p. 188.

ORCHIS. *Supra fol. 65.*

* *Radice tuberosa palmata.*—†† *Labello diviso.*

O. sambucina, labello leviter trilobo crenato: lobo medio angustiori, foliolis perianthii patulis obtusiusculis, ovarium cornu conicum subæquante, bracteis lanceolatis flore paulo longioribus.

Orchis sambucina. *Willden. sp. pl. 4. p. 31.* *Jacq. aust. 2. t. 108.*
Flor. dan. t. 1232. *Pers. syn. 2. p. 505.* *Spreng. syst. 3. p. 688.*
Swt. hort. brit. p. 382. n. 21.

Root fleshy, flattish, forked at the bottom, each fork slightly cloven in our plant; above the root are several long fleshy fibres, which nourish the plant for the present year. *Leaves* several, broadly lanceolate, bluntish, channelled on the upper side and keeled underneath, longitudinally lined, smooth and glossy, those on the stem narrower and more acute. *Scape* erect, leafy, angular, smooth. *Spike* terminal, several-flowered. *Bractes* lanceolate, scarcely acute, a little longer than the flowers, smooth, channelled on the upper side and keeled underneath, of a pale green colour. *Flowers* pale yellow. *Ovarium* angular, twisted, about the length of the spur. *Perianthium leaflets* straw-coloured, bluntish; two outer side ones rather narrowest and spreading or slightly reflexed, the others broader and connivent, a little arched over. *Labellum* broadish, slightly 3-lobed, and crenulate, side lobes rounded, the middle one small and narrow, entire, not emarginate. *Spur* conical, a little inflated, about the length of the ovarium, pale yellow.

Pollen-masses pedicled, brown, the pedicles seated on a gland, and inclosed within a membranaceous hood.

Our drawing of this pretty plant was made last May at the Nursery of Mr. Colvill, who imported several roots of it from Switzerland, sent by Mr. Schleicher, of Bex, with several other species of Orchideæ; the present species thrives well in a rich loamy soil, rather moist, and would doubtless succeed well in the same situation as the common British *O. latifolia*, to which it is nearly related, and might, we think, be naturalized, by being planted in a meadow where that species abounds. It will also thrive well in a border of the garden, in a rich loamy soil; but there it will not be so likely to increase, as the seeds of Orchideous plants seldom vegetate in the gardens; or if they do, they soon die off again, most probably from want of the grass, or other vegetables, either living or in a decomposed state, for the young roots to feed on, as the whole tribe is more or less inclined to be parasitical.

The generic name is derived from *ορχις*, in allusion to the oval fleshy roots, of the greater part of the species.



1. The twisted Ovarium, terminated by the three outer leaflets of the Perianthium. 2. The two inner leaflets. 3. Spur. 4. The 3-lobed Labellum. 5. The two Pollen masses pedicled, and seated on a little gland at the base; the hood in which they were inclosed open, to show from whence they have escaped.



E.D. Smith & Co.

Pub. by H. Brown & Co. 1860

H. Brown & Co.

SPATALANTHUS speciosus.

Beautiful Ribbon Flower.

Natural Order. IRIDÆ. *Brown prodr.* 1. p. 302.

SPATALANTHUS. *Spatha* rigida, terminalis, uniflora, bivalvis: valvis convoluto-lanceolatis, conduplicato-oppositis integris. *Perianthium* patens: *tubus* brevissimus: *limbus* sexpartitus, regularis; laciniis subæqualibus. *Stamina* 3. *Filamenta* brevia, in tubum connata. *Antheræ* oblongo-sagittatæ. *Ovarium* subrotundum, apice verrucosum. *Stigmata* 3, plana, apice bifurcata.—*Radix bulbo-tuber subrotundo-ovatum, basi oblique depressum, tunicis crustaceo-coriaceis at fere putamineis vestitum, fibræ principalem crassam subfusiformem demittens.* *Folia* plura, subfiliformi-clavata acuta, basi dilatata vaginantia. *Scapi* uniflori, *foliis* breviori. *Flores* rubri, striati, stellato-variegati.

Spatalanthus speciosus. *Supra fol.* 100.

Trichonema monadelphum. *Swt. hort. brit.* p. 399.

Root a bulb-tuber, of a roundish oval, clothed with a shelly fibrous net-work, somewhat obliquely depressed at the base, where it produces numerous fibrous roots. *Leaves* several, erect, from 4 to 6 inches in length, dilated and sheathing each other at the base, where they are longitudinally striated with numerous small lines, becoming slender and nearly filiform above the sheath, slightly thickening upwards, till they appear somewhat club-shaped a little below the point, which then becomes abruptly acute; the outer ones only producing the sheathy part, and have more the appearance of bractes. *Scapes* or *flower-stalks* much shorter than the leaves, erect, flowering in succession, smooth and slender. *Spatha* terminal, rigid, 2-valved, 1-flowered; the valves opposite, lanceolate, acute, green, with whitish margins, folded inwards before the flowers expand, one a little longer and more acute than the other. *Flower* very handsome, spreading open like a star when fully expanded, of a bright coppery red, marked from the base with a handsome star of yellow and black: *tube*

very short, or scarcely any: *limb* deeply 6-cleft, regularly spreading: the segments ovately lanceolate or elliptical, acute, every other one broadest, marked at the back with from 3 to 5 longitudinal straw-colour stripes, that are pennately veined, and all connected at the point; those show faintly through to the inside, which is of a bright red, tinged with copper, each marked at the base with a yellow patch, in which is a broken black spear-shaped mark. *Stamens* 3, erect; *filaments* black, connected all their length into a short tube: *anthers* oblongly linear, somewhat bluntly sagittate at the base. *Ovarium* 6-lined, warted on the angles near the top. *Style* filiform, smooth, terminated by three flat ligulate *Stigmas*, that are forked at the points.

The present splendid subject is the production of one of the bulbs that was brought from the Cape of Good Hope by Mr. Synnot, and flowered at the Nursery of Mr. Colvill, where our drawing was made. Mr. Synnot observed that it was a very rare bulb, and that he had very few of them; two of them flowered at Mr. Colvill's soon after they were planted, but did not perfect any seed, which would have been desirable; we have therefore waited till the present time before we published it, in hopes of seeing it flower again, and hoping it might ripen its seed; but it has not flowered since: we have no doubt but it will form a distinct genus from any already published, differing from *Trichonema*, to which it is nearest in habit, by its monadelphous stamens, and very different stigmas, and probably also by its seeds; and we know no other genus with which we need compare it. The best soil to grow it in is a mixture of light turfy loam, peat, and sand; and it may be grown in pots and kept in a frame or pit, or in the greenhouse, or be planted in a warm border with other Cape bulbs, and covered with mats or any other light covering in frosty weather.

The generic name is derived from *σπαταλος*, adorned with ribbons, and *ανθος*, a flower.



1. *Spatha*, showing the two valves that inclose the flower. 2. The three *Stamens*, the *filaments* connected all their length. 3. *Ovarium*, terminated by the *Style*, and three *Stigmas*.

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Note.—To *WHITLEYA STRAMONIFOLIA*, vol. 2. t. 125., add the following synonyms.

Nicandra anomala. Link.

Anisodus luridus. Link in Spreng. syst. 1. p. 699.

Since the above figure was published, we have seen plants in flower, raised from seeds, sent from the Berlin garden, under the above names.



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